

# HOLLOMAN AIR FORCE BASE

NEW MEXICO



65% SUBMITTAL

MAY 2003



UNITED STATES AIR FORCE



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- C. FHCP Database
  - 1. MFH Inventory by Address
  - 2. Detailed Cost Estimates by Neighborhood/Area - Whole Neighborhood
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- D. HCP Backup Files
  - 1. CAD Drawings
  - 2. Text - Word Document Files
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  - 4. Excel Files
  - 5. Photo Files
- E. Review Comments/Meeting Minutes, PDF Format

## Executive Summary

This Housing Community Profile (HCP) is one of the building blocks for the Family Housing Master Plan (FHMP) for Holloman AFB, New Mexico. This and other installation-level FHMPs form the foundation of the Air Force (AF) FHMP. The AF FHMP provides a corporate housing investment strategy that integrates and prioritizes traditional construction and operation and maintenance funding with private sector financing within a single “road map”. This road map complies with Defense Planning Guidance (DPG) requiring all Services to “revitalize, divest through privatization, or demolish inadequate housing by or before Fiscal Year (FY) 2010.” This document is an update to the previous HCP for Holloman AFB, dated July 1996.

The HCP identifies specific deficiencies and needs for the MFH areas at Holloman AFB based on the requirements identified in the HMA dated July 2001, and recommends solutions to correct deficiencies and meet those needs. Projected MFH requirements at Holloman AFB for FY2006 are for 1,413 families. Current inventory (currently available or programmed to be available by the end of FY 2002) is 1,413 housing units. The requirements include 1,264 units of “core” requirements and 149 units identified as “customer demand”. This leaves a surplus of 0 units at Holloman AFB. These HMA requirements are detailed in Chapter 2, Housing Requirements.

All unit types and neighborhoods in the current inventory are listed in Section 4.5.2, Existing and Proposed Unit Grade Mix. This table recommends how each unit should be used to meet future requirements, which may mean a change in grade assignment or number of bedrooms. This table is the basic framework for all recommendations contained within the HCP. Condition Assessment Matrix (CAM) scores listed in this table determine whether Investment or Operations and Maintenance (O&M) dollars will be used to fund the improvements.

The recommendations of Section 4.5.2 are then totaled in Section 4.6.3 and compared with the requirements noted

in the HMA. This enables the User to determine how all Core Requirements are met and how many units are available to satisfy the needs of Customer Demand.

Condition Assessment Matrix (CAM) scores listed in the table in Section 4.5.2 determine whether Investment or O&M dollars will be used to fund the improvements.

### Statement of Purpose

The purpose of the HCP is to take an independent, unbiased look at the family housing community at Holloman AFB, through the eyes of design professionals experienced in civilian community residential housing projects and merge that background with the criteria, goals, and objectives of the AF to create a living environment more in line with that found outside the structured nature of a military installation.

This HCP will:

- Serve as a guide for bringing the entire housing inventory both individual units and neighborhood areas, up to current Air Force standards.
- Identify all necessary improvements and repairs for the units and community areas.
- Function as a programming guide for development of specific projects.
- Provide construction costs for improvements and repairs in the Family Housing (FH) community.
- Provide for the orderly, economical implementation of all proposed improvements through the use of a phasing plan that recognizes the priorities of the U.S. Air Force and Holloman AFB, the variable nature of funding for improvements, and the logical sequence of construction that must be followed.

This document is conceptual in nature and is not intended for use as working drawings or contract documents. The plans and proposals within have not been developed for detailed construction.

## Goals and Objectives

The goal of the HCP is to provide families with homes and communities that meet contemporary Air Force standards of design and amenities and also are in accordance with local construction standards and building practices. The HCP focuses on two objectives; improving the community areas and improving individual housing units.

Guidelines used for analysis and recommendations within the HCP include Air Force Family Housing Guide (AFFHG), AFI 32-6002, Family Housing Planning, Programming, Design and Construction, and related documents and Base policies. Recommendations are included for improvements to existing neighborhood amenities and infrastructure and to individual dwelling units.

The intent of the HCP recommendations is to provide an adequate housing inventory and a quality living environment for Air Force families. Recommendations are provided to bring current inventory to the standards defined in the AFFHG, expanding the life of a residence for 20 to 30 years. In the case of historic structures, the aim is to preserve these units for as long as possible. Holloman AFB has an inventory of 0 historic units.

Recommendations within the HCP are intended to foster a sense of identification and belonging with the home, street, and neighborhood for each family, and to make the housing areas attractive and a source of pride.

## Methodology

This update to the HCP was accomplished in stages, starting with field investigations by a team of architects, engineers and landscape architects/planners. In addition to documenting existing conditions through a standardized CAM spreadsheet and digital photography, the field investigation included numerous interviews with Base personnel and residents of the housing neighborhoods.

Base personnel have been involved throughout the HCP process, contributing valuable input.

Implementation of HCP recommendations will provide families with homes and communities that are comparable in design and amenity to current private sector housing, and which offer:

- A sense of neighborhood identity through compatible housing styles, architectural features, and landscape development
- A sense of “Pride of Place” for each resident in the community
- Dwelling units with functional spaces of adequate size to meet today’s Air Force living standards
- Units with an additional 25 years of useful life
- Units which meet all allowances in accordance with the Air Force Family Housing Guide (AFFHG) in making a truly functional and pleasant layout
- Adequate transportation and utility systems
- Properly designed, convenient off-street parking
- Family support facilities
- Recreation facilities and athletic areas
- Quality materials in construction to the fullest extent possible

## Organization

The objective of this HCP has been to provide a comprehensive view of and determining investment requirements for family housing at Holloman AFB. The HCP is organized as an analysis process:

- Chapter 1, Introduction, provides general information and background material about Holloman AFB.
- Chapter 2, Housing Requirements, states the Housing Requirements for Holloman AFB as determined by the Housing Market Analysis.
- Chapter 3, Community & Infrastructure Improvements - Whole Neighborhood/Area, analyzes the Community and Infrastructure at Holloman AFB and provides recommendations for Whole Neighborhood improvements.
- Chapter 4, Unit Improvements - Whole House, analyzes the Unit Types at Holloman AFB

and provide recommendations for Whole House improvements.

- Chapter 5, Replacement Analysis, provides an Improvement/Replacement comparison analysis and recommendations for Holloman AFB housing and neighborhood/areas.
- Chapter 6, Investment Phasing Plan, presents an organized phasing plan for accomplishing the entire housing investment program at Holloman AFB.
- Appendix 1, Electronic Files, provides a digital version of text drawings, photos, and databases.

## Summary

The HCP will assist Holloman AFB in bringing the family housing areas up to current Air Force standards. The HCP is a flexible document the Base may use for programming purposes. It contains an organized plan for upgrading all Base housing and neighborhoods to help attract and retain quality personnel. The HCP provides continuity to meet long-term goals, and may be used as a selling tool to help achieve funding.

The total cost of the recommendations within this HCP is \$163,015,294 for 1,413 total units and supporting community/infrastructure. Details are included in Chapter 6. These recommendations include:

- Improve 538 units for a cost of \$48,574,532 for units, \$4,278,567 for community/infrastructure improvements; of this total 0 are improvement by conversion
- Replace 607 units for a cost of \$97,574,496 for units, \$10,576,691 for community/infrastructure improvements.
- Build 0 new (deficit) units for a total of \$0 for units, \$0 for community/infrastructure improvements.
- Demolish 6 total units; of these 3 are being replaced, 3 units are being surplus; all demolition costs are included in improvement or replacement costs
- 265 existing units do not require improvements.

Other cost identified but not captured within the investment phasing plan total \$1,274,998 for 88 adequate units.

## Implementation

The investment cost recommendations within the HCP will be incorporated into the Installation FHMP for Holloman AFB. All Installation FHMPs are consolidated into MAJCOM FHMPs. These FHMPs are, in turn, consolidated into the AF FHMP. The AF FHMP will be used by the MAJCOMs and the AF to prepare Program Objective Memoranda and Budget Estimate Submittals. Accordingly, future budget documents will be based on and consistent with the plan and supporting installation data.

The recommendations within this HCP include 8 phasing packages. Details are included in Chapter 6.

## Monitoring and Updating the HCP

The AF intends to update this HCP periodically. The AF recognizes that military, social and economic conditions that influence the plan are constantly changing. The HCP will be updated through revision of the HMA when the Mission of the Base is changed or when other circumstances alter the mix of housing required.

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## Chapter 1 – Introduction

### 1.1 Scope

The purpose of this chapter is to provide general information and background material on Holloman AFB and on the purpose and process of the Housing Community Profile (HCP).

#### 1.1.1 Statement of Purpose

This HCP is one of the building blocks for the Family Housing Master Plan (FHMP) for Holloman AFB, New Mexico. This and other installation-level FHMPs form the foundation of the Air Force (AF) FHMP. The AF FHMP provides a corporate housing investment strategy that integrates and prioritizes traditional construction and operation and maintenance funding with private sector financing within a single “road map”. This road map complies with Defense Planning Guidance (DPG) requiring all Services to “revitalize, divest through privatization, or demolish inadequate housing by or before Fiscal Year (FY) 2010.” This document is an update to the previous HCP for Holloman AFB, dated July 1996.

The HCP identifies specific deficiencies and needs for the MFH areas at Holloman AFB based on the requirements identified in the HMA dated November 2000 and recommends solutions to correct deficiencies and meet those needs. Projected MFH requirements at Holloman AFB for FY2006 are for 1413 families. Current inventory (currently available or programmed to be available by the end of FY2002) is 1413 Family Housing Units (FHUs). The requirements include 1264 units of “core” requirements and 149 units identified as “customer demand.” This leaves no deficit or surplus of FHUs. These HMA requirements are detailed in Chapter 2, Housing Requirements.

This HCP contains text and graphic displays, which describe existing conditions and recommendations for improving the Quality of Life for military families who live in base housing. Housing is one of the most important factors in a person’s life. It can affect career, family life, and personal development. This planning document is designed to respond to the housing needs of military personnel and their families.

The purpose of the HCP is to take an independent, unbiased look at the family housing community at Holloman AFB, through the eyes of design professionals experienced in civilian community residential housing projects and merge that background with the criteria, goals, and objectives of the Air Force to create a living environment more in line with that found outside the structured nature of a military installation.

This HCP will:

- Serve as a guide for bringing the entire housing inventory both individual units and neighborhood areas, up to current Air Force standards.
- Identify necessary improvements and repairs for the units and community areas.
- Function as a programming guide for development of specific projects.
- Provide construction costs for improvements and repairs in the FH community.
- Provide for the orderly, economical implementation of all proposed improvements through the use of a phasing plan that recognizes the priorities of the U.S. Air Force and Holloman AFB, the variable nature of funding for improvements, and the logical sequence of construction that must be followed.

The investment cost recommendations within the HCP will be incorporated into the Installation FHMP for Holloman AFB. All Installation FHMPs are consolidated into MAJCOM FHMPs. These FHMPs are, in turn, consolidated into the AF FHMP. The AF FHMP will be used by the MAJCOMs and the AF to prepare Program Objective Memoranda and Budget Estimate Submittals. Accordingly, future budget documents will be based on and consistent with the plan and supporting installation data.

### 1.1.2 Goals and Objectives

The goal of the HCP is to provide families with homes and communities that meet contemporary Air Force standards of design and amenities and also are in accordance with local construction standards and building practices. The HCP focuses on two objectives; improving the community areas and improving individual housing units.

The HCP itemizes specific deficiencies compared with Air Force requirements for family housing areas. The final product is used for programming and designing all future FH projects on the base. The plan will be instrumental in bringing the family housing community at Holloman AFB up to the whole-community standards required by the Air Force. The whole-community standards include both whole-neighborhood and whole-house requirements.

The intent of the HCP recommendations is to provide an adequate housing inventory and a quality living environment for Air Force families. Recommendations are provided to bring current inventory to the standards defined in the Air Force Family Housing Guide (AFFHG), expanding the life of a residence for 20 to 30 years. In the case of historic structures, the aim is to preserve these units for as long as possible.

Recommendations within the HCP are intended to foster a sense of identification and belonging with the home, street, and neighborhood for each family, and to make the housing areas attractive and a source of pride.

Implementation of HCP recommendations will provide families with homes and communities that are comparable in design and amenity to current private-sector housing, and which offer:

- A sense of neighborhood identity through compatible housing styles, architectural features, and landscape development.
- A sense of “Pride of Place” for each resident in the community.

- Dwelling units with functional spaces of adequate size to meet today’s Air Force living standards
- Units with an additional 20 to 30 years of useful life
- Units which meet all allowances in accordance with the Air Force Family Housing Guide (AFFHG) in making a truly functional and pleasant layout
- Adequate transportation and utility systems
- Properly designed, convenient off-street parking
- Family support facilities
- Recreation facilities and athletic areas
- Quality materials in construction to the fullest extent possible

#### Typical Community Recommendations

- Provide structured, functional, uncluttered open spaces
- Improve crosswalks and intersections
- Create bikeway/pedestrian routes
- Improve community and neighborhood parks
- Add tot lots and playgrounds
- Improve neighborhood signage
- Provide additional landscaping and screening

#### Typical Infrastructure Recommendations

- Repair or replace storm sewer
- Repair or replace sanitary sewer
- Repair or replace water supply
- Repair or replace electrical distribution

#### Typical Housing Unit Recommendations

- Replace roofs
- Repair damage to exterior
- Provide exterior storage areas
- Provide covered parking
- Increase off-street parking
- Add trash enclosures
- Add privacy fences
- Increase unit size
- Renovate or relocate kitchens
- Upgrade mechanical systems
- Expand or add family rooms

- Expand or add master bathrooms
- Provide new plumbing and light fixtures
- Identify conversion
- Identify replacement
- Identify demolition
- Identify build new (deficit)

### 1.1.3 Methodology

A brief description of the methods used to meet the goals and objectives is:

#### Field Survey

This update to the HCP was accomplished in stages, starting with field investigations in March of 2001 by a team of architects, engineers and landscape architects/planners. Existing conditions were documented through digital photography and a standardized CAM spreadsheet. Refer to Section 3.1.3, Basis for Community/Infrastructure CAMs and Section 4.1.5, Basis for Unit CAMS for additional information regarding CAMs.

Numerous interviews with Base personnel and residents of the housing neighborhoods were conducted. Base personnel have been involved throughout the HCP process, contributing valuable input.

Community and unit assessments were conducted to:

- Evaluate the present technical condition of the facilities.
- Confirm the general accuracy of the record documents provided.
- Gain a familiarity with the site and neighborhoods.
- Determine the quality of materials used.
- Obtain visual feelings and impressions of the base, neighborhoods and units.

### Analysis of Existing Conditions

The project team next documented and evaluated the FH community with respect to the HCP's goals and objectives. The analyses consider the base's assets as well as deficiencies, and are featured in Chapters 3 and 4. Guidelines for the analyses are contained in the AFFHG, and are generally embodied in contemporary community planning practice.

The analysis of existing conditions has been prepared by gathering data from a combination of:

- Review of CAM information collected during Field Survey.
- Interviews with appropriate base personnel.
- Conversations with neighborhood residents.
- A walkthrough of each unit type to ascertain specific conditions.
- Review of photographs, subdivision plans, utility maps, and documents furnished by Holloman AFB.

This information provides the necessary background to allow for the development of meaningful options to improve the quality of life for family housing residents

### Recommendations for Community and Unit Improvements

The project team used their observations and analysis to make comprehensive recommendations for improving all components of the FH community.

### Construction Cost Estimating

Detailed recommendations and estimates are provided for Whole Neighborhood/ Whole House improvement recommendations. Whole Neighborhood/Whole House estimates use a comprehensive, one-time approach funded by MILCON funds. The Air Force prefers this approach as the most economical means of bringing housing up to standards. The costs in this plan are

escalated to a common fiscal year. Specific projects, once developed, need to be appropriately escalated to the programmed fiscal year.

## Replacement Analysis

The Whole Neighborhood/Whole House improvement recommendations are compared on a project wide basis with the cost of replacing each neighborhood/area as a whole. The results of the Replacement Analysis are compiled into a series of Decision Database Reports Which are integrated into the construction phase planning.

## Construction Phase Planning

The approved Decision Database Reports are incorporated into a phased construction plan. This Phasing Plan provides for an orderly and economical implementation of all proposed improvements over a multi-year period.

## Database

As part of the analysis, the team populates a computer database established by Parsons and Baker and Associates. This database enables the team to easily generate and integrate data from a number of sources. The database then generates the FHMP for the Base. This and other installation-level FHMPs form the foundation of the AF FHMP. The AF FHMP provides a corporate housing investment strategy that integrates and prioritizes traditional construction and operation and maintenance funding with private sector financing within a single “road map”. This road map complies with DPG requiring all Services to “revitalize, divest through privatization, or demolish inadequate housing by or before Fiscal Year (FY) 2010.”

## 1.1.4 Organization of Documents

This document is conceptual in nature and is not intended for use as working drawings or contract documents. The plans and proposals within have not been developed for detailed construction.

Chapter 1, Introduction provides general information and background data impacting both the Community Development Plan and Unit Improvements.

Chapter 2, Housing Requirements provides database reports from the Housing Market Analysis detailing requirements for housing by grade and bedrooms.

Chapter 3, Community & Infrastructure Improvements - Whole Neighborhood/Area defines the “building block” nature of the housing area, the relationship of each individual dwelling unit to a cluster of units, a neighborhood and the Base community as a whole. The housing neighborhoods should be aesthetically pleasing, have appropriate infrastructure and community support services to meet the needs of the families living in an area. Whole Neighborhood improvement recommendations are itemized and estimated.

Chapter 4, Unit Improvements - Whole House examines the existing housing unit inventory by “unit type”. Each unit type is considered to be a unique floor plan as defined by configuration, size, number of bedrooms, and quality of condition. Recommendations are provided for each unit type to provide the improvements and modifications necessary to meet future housing requirements for both quantity and quality. The floor plan for each unit type is evaluated and reconfigured in a proposed plan, if necessary, to improve functionality, livability, and accessibility to meet the needs of its occupants. Adequate living space is provided in each dwelling unit, as authorized, through additions, expansions or conversion of unit types. Whole House improvement recommendations are itemized and estimated.

Chapter 5, Replacement Analysis compares the whole neighborhood/whole house improvement recommendations of Chapters 3 and 4 on a project wide basis with the cost of replacing each neighborhood/area as a whole. The results of the Replacement Analysis are compiled into a series of Decision Database Reports.

Chapter 6, Investment Phasing Plan combines all recommendations into a final phasing plan to guide the base into an orderly implementation plan for upgrading all Base housing and neighborhoods to help attract and retain quality personnel.

Appendix I, Electronic Files contains a CD with all electronic files used in compiling the HCP. The user can access CAMs, call up a PDF format of the HCP, research details of inventory and cost estimates in this Appendix. Electronic files are also included of all CAD drawings, text documents, spreadsheets, and photos.

## 1.1.5 Reference Documents

The following is a partial list of reference documents utilized in this study effort. This information is supplemented by data gathered during site visits, including interviews with Base personnel.

- Air Force Family Housing Guide for Planning, Programming, Design and Construction (AFFHG)
- AFI 32-6002, Family Housing Planning, Programming, Design and Construction
- Military Family Housing Community Plan, Holloman AFB (April 1997)
- Housing Market Analysis Tables (...2000)
- As-Built Record Drawings
- Real Property Records Holloman AFB

## 1.1.6 Standard Abbreviations and Acronyms

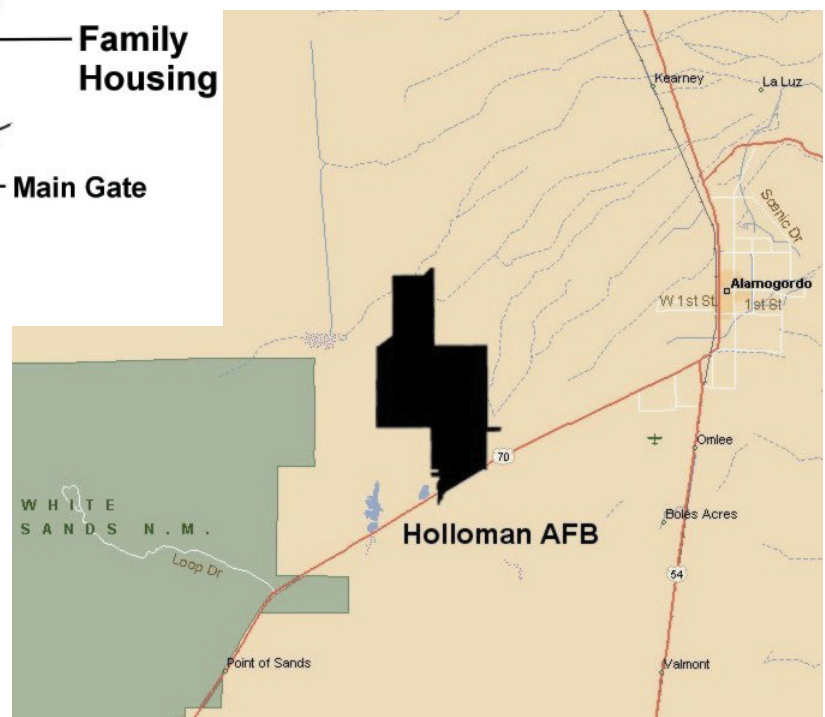
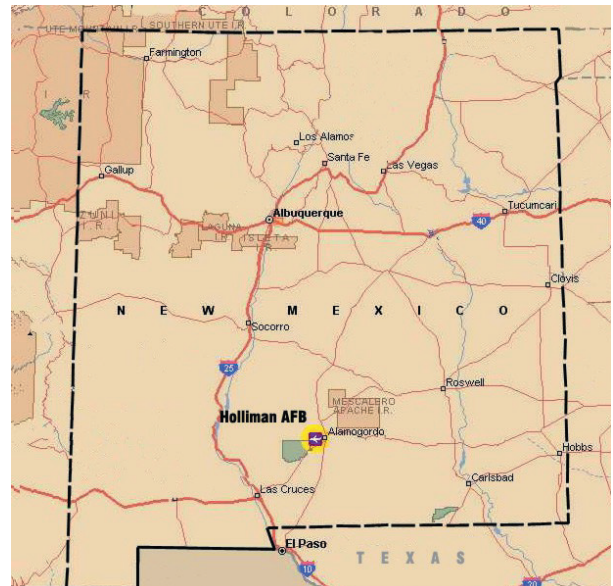
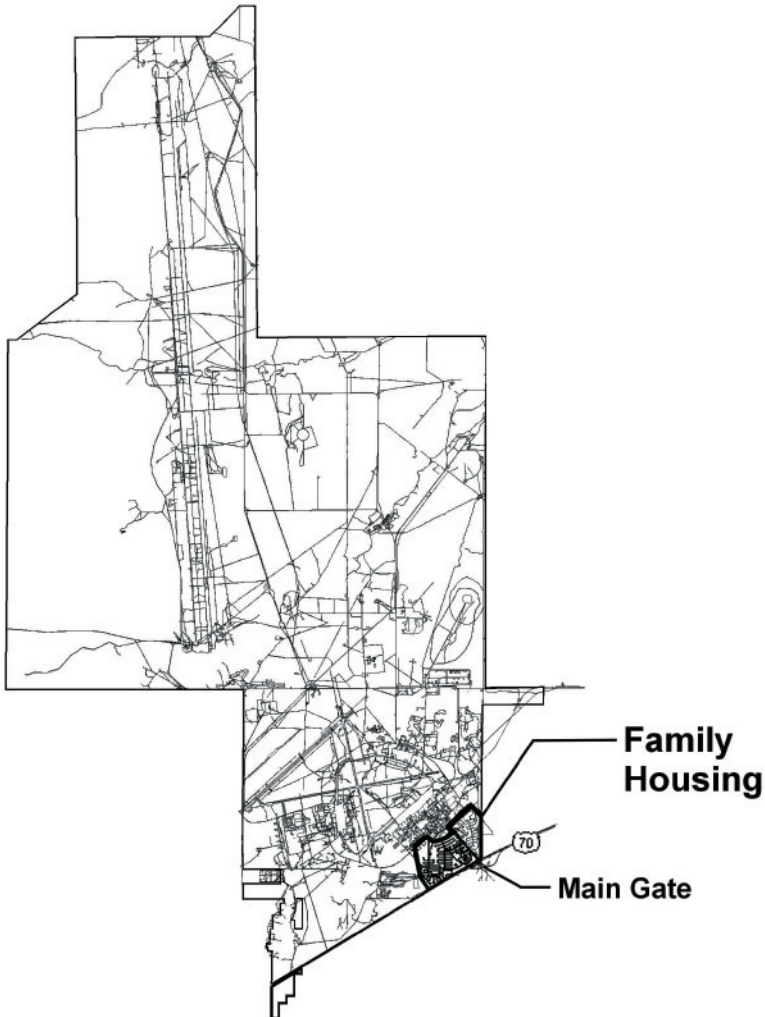
Abbreviations and acronyms used in the development of this document include the following:

ACF: Area Cost Factor  
 ADA: Americans with Disabilities Act  
 AFB: Air Force Base  
 AF: Air Force  
 AFI: Air Force Instruction  
 AFFHG: Air Force Family Housing Guide  
 CAM: Condition Assessment Matrix  
 DoD: Department of Defense  
 DPG: Defense Planning Guidance  
 DX: Direct Expansion  
 EIFS: Exterior Insulation and Finishing System  
 FH: Family Housing  
 FHMP: Family Housing Master Plan  
 FHCP DB: Family Housing Community Profile Database  
 FY: Fiscal Year  
 FHU: Family Housing Unit  
 GSF: Gross Square Feet  
 HCP: Housing Community Profile  
 HMA: Housing Market Analysis  
 IHD: Integrated Housing Database  
 LF: Linear Feet  
 MAJCOM: Major Command  
 MILCON: Military Construction  
 MFH: Military Family Housing  
 NSF: Net Square Feet  
 O&M: Operations & Maintenance  
 SF: Square Feet  
 SIOH: Supervision, Inspection & Overhead

## 1.2 General Information and Background

Holloman AFB is located in New Mexico's high country, cradled in the Tularosa Basin between the Sacramento and San Andreas mountain ranges. The semi-desert area adjacent to Holloman contrasts with the nearby peaks and alpine valleys. Located only 90 miles south of Holloman, the twin metropolises of El Paso, Texas and Juarez, Mexico, are the largest population centers in the region. The community of Alamogordo, New Mexico is the nearest town.

## 1.2.1 Study Area Definition/ Vicinity Map



## 1.2.2 Community History

On June 10, 1942, an event occurred that permanently changed the face of the Tularosa Basin--Alamogordo Army Air Field was established at a site six miles west of Alamogordo, New Mexico. Initial plans called for the base to serve as the center for the British Overseas Training program; the British hoped to be able to train their aircrews over the open New Mexico skies. However, everything changed when the Japanese launched a surprise attack against the Hawaiian Islands on December 7, 1941. The British decided to no longer pursue its overseas training program, and the United States military saw the location as an opportunity to train its own growing military. Construction began at the airfield on February 6, 1942 and forces began to move in on May 14, 1942.

From 1942-1945, Alamogordo Army Air Field served as the training grounds for over 20 different groups, flying primarily B-17s, B-24s, and B-29s. Typically, these groups served at the airfield for about six months, training their personnel before heading to combat in either the Pacific or European Theater. The 450th Bombardment Group was one of the many to cut its teeth at Alamogordo. After training, the group went on to serve in nearly every major combat operation in Italy, France, Germany, Austria, Hungary, and the Balkans. During their combat service, the 450th garnered two distinguished unit citations and 11 campaign credits.

After World War II, the future of the base was uncertain. In fact, rumors spread concerning the closure of the site, fueled by the fact that most operations had ceased. However, in 1947, a new era began when Air Materiel Command announced the air field would be its primary site for the testing and development of pilot less aircraft, guided missiles, and other research programs. For the next 25 years the site, which became known as the Holloman Air Development Center, and later the Air Force Missile Development Center, launched many missiles including Tiny Tim (the first Army rocket), Rascal, V-2, XQ-2 Drone, Falcon, MACE, Matador, and Shrike.

On January 13, 1948 the Alamogordo installation was renamed Holloman Air Force Base, in honor of the late Col. George V. Holloman, a pioneer in guided missile research.

Holloman Air Force Base wrote its name into the annals of American history in the 1950s and 1960s. On December 10, 1954, Lt Col (Dr.) John P. Stapp received the nickname "The Fastest Man Alive" when he rode a rocket propelled test sled, Sonic Wind No. 1, to a speed of 632 miles per hour. Additionally, Captain Joseph W. Kittinger Jr. stepped out of an open balloon gondola at 102,800 feet on August 16, 1960, in an attempt to evaluate techniques of high altitude bailout. Capt Kittinger's jump lasted 13 minutes reaching a velocity of 614 miles per hour. That jump broke four world records: highest open gondola manned balloon flight, highest balloon flight of any kind, highest bailout, and longest free fall. A final noteworthy event occurred on November 29, 1961, when ENOS, a chimpanzee trained at Holloman's HAM facility (Holloman Aero-Medical laboratory), was the first U.S. specimen launched into orbit. ENOS was launched in a Mercury-Atlas capsule that completed two orbits around the earth and was safely recovered three hours, 21 minutes later.

Another new era began in the Tularosa Basin on 1 July 1968, when the 49th Fighter Wing arrived at Holloman Air Force Base. The 49th's F-4 Phantom IIs introduced a new era of fighter aircraft training and operations, which continued for the next three decades and until today. In 1977 the 49th transitioned to the F-15 Eagle, the Air Force's top air-to-air weapon. In 1992, Holloman Air Force Base again garnered national attention when the Air Force's most technological fighter, the F-117A Nighthawk made its new home at Holloman.

In May 1972, the 49th deployed their F-4 aircraft and 2,600 personnel to Takhli Air Base, Thailand. During this deployment, Operation Constant Guard, the 49th flew more than 21,000 combat hours over just about every battle zone from An Loc to vital installations in the Hanoi vicinity. During five months of combat, the wing did not lose any aircraft or personnel -- a testament to the outstanding training and proficiency of all members

of the 49th. The unit officially closed out its Southwest Asia duty October 6, 1972, receiving an Air Force Outstanding Unit Award with Combat “V” Device for its participation.

On Dec. 20, 1977, the wing began converting from the F-4 to the F-15. The transition was completed June 4, 1978.

History was made during February 1980, when two pilots from the 49th each flew their F-15s, 6,200 miles in just over 14 hours, establishing a record for the longest flight of a single-seat fighter aircraft. The flights required six aerial refuelings, proving the global power of the 49th Fighter Wing.

In July 1980, the wing acquired the commitment of a primary Rapid Deployment Force unit. This tasking, which lasted for a year, required the wing to be ready to deploy its aircraft, crews, and support personnel on short notice. The wing served with the Rapid Deployment Force until July 1981, when the tasking was transferred to the 1st Tactical Fighter Wing, Langley Air Force Base, Virginia.

The 49th demonstrated its capabilities in the fall of 1988, winning top honors at the William Tell air-to-air weapons competition. The wing outdistanced the nearest competitor by more than 2,000 points. The 49th won a variety of awards, including the coveted “Top Gun” for best fighter pilot.

In 1992, the 49th underwent a number of transitions. The last F-15 departed Holloman June 5, 1992, ending 14 years of Eagle operations. On May 9, 1992, four F-117 stealth fighters from Tonopah Test Range, Nevada, arrived at Holloman. Also, F-4s returned to Holloman, as part of the 9th Fighter Squadron, in May 1992.

The 48th Rescue squadron served at Holloman AFB from 1 May 1993-1 February 1999. With its six HH-60G Pave Hawk helicopters, the personnel of the 48th deployed six times in support of Operations Northern and Southern

Watch. Additionally, during its six years of service, the 48th saved 33 lives in real-world rescues in the American Southwest.

The 8th and 9th Fighter Squadrons deployed to Aviano Air Base, Italy and Spangdahlem Air Base, Germany from 21 February to 1 July 1999, in support of Operation Allied Force. Flying more than 1,000 total sorties, pilots flew into heavily defended skies, littered with surface-to-air missiles and anti-aircraft fire. In particular, F-117A pilots bravely trusting in their aircraft’s low observable technology struck some of the most valuable, and highly guarded targets in Serbia. The F-117s successfully penetrated the heavily defended areas, which conventional aircraft could not reach.

On 1 May 1996, the German Air Force Tactical Training Center was established in concept with the 20th Fighter Squadron which provides aircrew training in the F-4F Phantom II. The TTC serves as the parent command for two German air crew training squadrons. The F-4 Training Squadron oversees all German F-4 student personal affairs, and provides German instructor pilots to cooperate in the contracted F-4 training program provided by the U.S. Air Force (20th Fighter Squadron). A second TTC unit, the Tornado Training Squadron, provides academic and tactical flying training, by German Air Force instructors, for German Tornado aircrews. The first contingent of Tornado aircraft arrived at Holloman in March 1996. More than 300 German Air Force members are permanently assigned at Holloman to the TTC--the only unit of its kind in the United States.

Today, Holloman Air Force Base continues to serve at the forefront of military operations, with its F-117 “stealth” aircraft and serving as the training center for the German Air Force’s Tactical Training Center.

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## Chapter 2 – Housing Requirements

### 2.1 Housing Requirements Overview

The purpose of this chapter is to provide the database information obtained from the HMA. This tabular information is used as the basis of the HCP process. The HMA requirements determine the core housing needs at Holloman AFB.

The tables in Section 2.2 are provided from the HMA prepared for Holloman AFB by Parsons, ITG, July 2001. This data is compiled using procedures approved by the AF.

Two primary data sets of concern are the Core Requirement and the Customer Demand. The Core Requirement are those units which must be provided and maintained to serve the Base family housing community. These units include a minimum of:

- 10% of all military families assigned to the Base.
- Key and Essential personnel.
- Historic housing.
- Quality of Life
- Community Housing Shortfalls

Customer Demand is defined as the number of housing units above Core Requirement which the Base is able to keep occupied. Occupancy must exceed 98% of inventory to verify a need to maintain all current inventory.

If Core Requirement exceeds available inventory, the HCP Contractor recommends the most cost-effective plan for improving, replacing or constructing new housing to meet the AF housing standards for the grade/bedroom needs specified in the core requirements.

If customer demand exists in addition to the core requirement, the most cost-effective plan for improving, replacing or constructing new housing to meet the AF housing standards for the grade/bedroom requirements specified in the core requirement is first determined. Then the most cost-effective plan for improving housing in excess of the core requirement is provided. Recommendations for Customer Demand units are determined by improving these units to meet AF grade/bedroom standards with minimal additional investment.

Projected Core Requirements at Holloman AFB for FY2006 are for 1,264 families. Current inventory (currently available or programmed to be available by the end of FY 2006) is 1,413 housing units. The Customer Demand is identified as 149 units. This leaves a surplus of 0 units.

**All unit types and neighborhoods in the current inventory are listed in Section 4.5.2, Existing & Proposed Unit Grade Mix. This table recommends how each unit should be used to meet future requirements, which may mean a change in grade assignment or number of bedrooms. This table is the basic framework for all recommendations contained within the HCP. CAM scores listed in this table determine whether Investment or O&M dollars will be used to fund the improvements.**

**The recommendations of Section 4.5.2 are then totaled in Section 4.5.3 and compared with the requirements noted in the HMA. This enables the User to determine how all Core Requirements are met and how many units are available to satisfy the needs of Customer Demand.**

### 2.2 Database Reports

The following data base reports were provided by the HMA performed for Holloman AFB by Parsons, ITG, dated July 2001.

### 2.2.1 MFH HMA Tables

Tables 6 through 10 are only included for overseas installations.”

**MFH GRADE AND BEDROOM DISTRIBUTION - TOTAL UNITS**  
**INSTALLATION: HOLLOMAN AIR FORCE BASE**  
**HMA Year: 2001**

|                        |      |
|------------------------|------|
| <b>Survey Year:</b>    | 2001 |
| <b>Projected Year:</b> | 2006 |

Table 1. Government Owned, Leased, and Privatized Units

|                          | Bedrooms |            |            |            |             |
|--------------------------|----------|------------|------------|------------|-------------|
| Grade                    | 1        | 2          | 3          | 4+         | Total       |
| GOQ                      |          |            |            | 1          | 1           |
| SOQ                      |          |            |            | 13         | 13          |
| FGO                      |          |            | 43         | 7          | 50          |
| CGO                      |          |            | 90         | 36         | 126         |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b>   | <b>133</b> | <b>57</b>  | <b>190</b>  |
| E9                       |          |            |            | 1          | 1           |
| SNCO                     |          |            | 114        | 63         | 177         |
| JNCO                     |          | 480        | 466        | 99         | 1045        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>480</b> | <b>580</b> | <b>163</b> | <b>1223</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>480</b> | <b>713</b> | <b>220</b> | <b>1413</b> |

Table 2. Government Owned Units

|                          | Bedrooms |            |            |            |             |
|--------------------------|----------|------------|------------|------------|-------------|
| Grade                    | 1        | 2          | 3          | 4+         | Total       |
| GOQ                      |          |            |            | 1          | 1           |
| SOQ                      |          |            |            | 13         | 13          |
| FGO                      |          |            | 43         | 7          | 50          |
| CGO                      |          |            | 90         | 36         | 126         |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b>   | <b>133</b> | <b>57</b>  | <b>190</b>  |
| E9                       |          |            |            | 1          | 1           |
| SNCO                     |          |            | 114        | 63         | 177         |
| JNCO                     |          | 480        | 466        | 99         | 1045        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>480</b> | <b>580</b> | <b>163</b> | <b>1223</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>480</b> | <b>713</b> | <b>220</b> | <b>1413</b> |

Table 3. Leased Units (801 and Other Units)

|                          | Bedrooms |          |          |          |          |
|--------------------------|----------|----------|----------|----------|----------|
| Grade                    | 1        | 2        | 3        | 4+       | Total    |
| GOQ                      |          |          |          |          | 0        |
| SOQ                      |          |          |          |          | 0        |
| FGO                      |          |          |          |          | 0        |
| CGO                      |          |          |          |          | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       |          |          |          |          | 0        |
| SNCO                     |          |          |          |          | 0        |
| JNCO                     |          |          |          |          | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

**MFH GRADE AND BEDROOM DISTRIBUTION - TOTAL UNITS**  
**INSTALLATION: HOLLOMAN AIR FORCE BASE**

HMA Year: 2001

Survey Year: 2001

**Table 4. Privatized Units**

|                          | Bedrooms |          |          |          |          |
|--------------------------|----------|----------|----------|----------|----------|
| Grade                    | 1        | 2        | 3        | 4+       | Total    |
| GOQ                      |          |          |          |          | 0        |
| SOQ                      |          |          |          |          | 0        |
| FGO                      |          |          |          |          | 0        |
| CGO                      |          |          |          |          | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       |          |          |          |          | 0        |
| SNCO                     |          |          |          |          | 0        |
| JNCO                     |          |          |          |          | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

**Table 5. Historic Units**

|                          | Bedrooms |          |          |          |          |
|--------------------------|----------|----------|----------|----------|----------|
| Grade                    | 1        | 2        | 3        | 4+       | Total    |
| GOQ                      |          |          |          |          | 0        |
| SOQ                      |          |          |          |          | 0        |
| FGO                      |          |          |          |          | 0        |
| CGO                      |          |          |          |          | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       |          |          |          |          | 0        |
| SNCO                     |          |          |          |          | 0        |
| JNCO                     |          |          |          |          | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

**INSTALLATION: HOLLOMAN AIR FORCE BASE**  
**HMA Year: 2001**

**Table 11. Community (Military) Housing Requirement, 2006**

| Pay Grade                | Bedrooms   |           |           | Total      |
|--------------------------|------------|-----------|-----------|------------|
|                          | 2-         | 3         | 4+        |            |
| O7+                      | 0          | 0         | 0         | 0          |
| O6                       | 0          | 0         | 1         | 1          |
| O5                       | 0          | 3         | 2         | 5          |
| O4                       | 0          | 4         | 2         | 6          |
| O3                       | 11         | 2         | 2         | 15         |
| O2                       | 0          | 0         | 0         | 0          |
| O1                       | 1          | 0         | 0         | 1          |
| <b>Officer Subtotal</b>  | <b>12</b>  | <b>9</b>  | <b>7</b>  | <b>28</b>  |
| E9                       | 0          | 2         | 0         | 2          |
| E8                       | 0          | 4         | 1         | 5          |
| E7                       | 0          | 15        | 4         | 19         |
| E6                       | 17         | 10        | 7         | 34         |
| E5                       | 44         | 15        | 8         | 67         |
| E4                       | 54         | 8         | 3         | 65         |
| E3                       | 14         | 1         | 0         | 15         |
| E2                       | 1          | 0         | 0         | 1          |
| E1                       | 1          | 0         | 0         | 1          |
| <b>Enlisted Subtotal</b> | <b>131</b> | <b>55</b> | <b>23</b> | <b>209</b> |
| <b>Grand Total</b>       | <b>143</b> | <b>64</b> | <b>30</b> | <b>237</b> |

**Table 12. Key & Essential Positions, 2006**

| Pay Grade                | Bedrooms |          |           | Total     |
|--------------------------|----------|----------|-----------|-----------|
|                          | 2-       | 3        | 4+        |           |
| O7+                      | 0        | 0        | 1         | 1         |
| O6                       | 0        | 0        | 7         | 7         |
| O5                       | 0        | 9        | 5         | 14        |
| O4                       | 0        | 0        | 0         | 0         |
| O3                       | 0        | 0        | 0         | 0         |
| O2                       | 0        | 0        | 0         | 0         |
| O1                       | 0        | 0        | 0         | 0         |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>9</b> | <b>13</b> | <b>22</b> |
| E9                       | 0        | 0        | 1         | 1         |
| E8                       | 0        | 0        | 0         | 0         |
| E7                       | 0        | 0        | 0         | 0         |
| E6                       | 0        | 0        | 0         | 0         |
| E5                       | 0        | 0        | 0         | 0         |
| E4                       | 0        | 0        | 0         | 0         |
| E3                       | 0        | 0        | 0         | 0         |
| E2                       | 0        | 0        | 0         | 0         |
| E1                       | 0        | 0        | 0         | 0         |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>1</b>  | <b>1</b>  |
| <b>Grand Total</b>       | <b>0</b> | <b>9</b> | <b>14</b> | <b>23</b> |

Table 13. Historic Housing, 2006

| Pay Grade                | Bedrooms |          |          | Total    |
|--------------------------|----------|----------|----------|----------|
|                          | 2-       | 3        | 4+       |          |
| O7+                      | 0        | 0        | 0        | 0        |
| O6                       | 0        | 0        | 0        | 0        |
| O5                       | 0        | 0        | 0        | 0        |
| O4                       | 0        | 0        | 0        | 0        |
| O3                       | 0        | 0        | 0        | 0        |
| O2                       | 0        | 0        | 0        | 0        |
| O1                       | 0        | 0        | 0        | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       | 0        | 0        | 0        | 0        |
| E8                       | 0        | 0        | 0        | 0        |
| E7                       | 0        | 0        | 0        | 0        |
| E6                       | 0        | 0        | 0        | 0        |
| E5                       | 0        | 0        | 0        | 0        |
| E4                       | 0        | 0        | 0        | 0        |
| E3                       | 0        | 0        | 0        | 0        |
| E2                       | 0        | 0        | 0        | 0        |
| E1                       | 0        | 0        | 0        | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

Table 14. Quality of Life Requirement, 2006

| Pay Grade                | Bedrooms |          |          | Total    |
|--------------------------|----------|----------|----------|----------|
|                          | 2-       | 3        | 4+       |          |
| O7+                      | 0        | 0        | 0        | 0        |
| O6                       | 0        | 0        | 0        | 0        |
| O5                       | 0        | 0        | 0        | 0        |
| O4                       | 0        | 0        | 0        | 0        |
| O3                       | 0        | 0        | 0        | 0        |
| O2                       | 0        | 0        | 0        | 0        |
| O1                       | 0        | 0        | 0        | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       | 0        | 0        | 0        | 0        |
| E8                       | 0        | 0        | 0        | 0        |
| E7                       | 0        | 0        | 0        | 0        |
| E6                       | 0        | 0        | 0        | 0        |
| E5                       | 0        | 0        | 0        | 0        |
| E4                       | 0        | 0        | 0        | 0        |
| E3                       | 0        | 0        | 0        | 0        |
| E2                       | 0        | 0        | 0        | 0        |
| E1                       | 0        | 0        | 0        | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

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**Table 15. Community Housing Deficit/Surplus, 2006**

| Pay Grade                | Bedrooms   |            |            | Total       |
|--------------------------|------------|------------|------------|-------------|
|                          | 2-         | 3          | 4+         |             |
| O7+                      | 0          | 0          | 0          | 0           |
| O6                       | 0          | 0          | 2          | 2           |
| O5                       | 0          | 0          | 2          | 2           |
| O4                       | 0          | 0          | 1          | 1           |
| O3                       | 46         | 8          | 18         | 72          |
| O2                       | 2          | 1          | 1          | 4           |
| O1                       | 4          | 1          | 2          | 7           |
| <b>Officer Subtotal</b>  | <b>52</b>  | <b>10</b>  | <b>26</b>  | <b>88</b>   |
| E9                       | 0          | 3          | 2          | 5           |
| E8                       | 0          | 14         | 8          | 22          |
| E7                       | 0          | 67         | 25         | 92          |
| E6                       | 76         | 49         | 45         | 170         |
| E5                       | 188        | 82         | 59         | 329         |
| E4                       | 346        | 50         | 25         | 421         |
| E3                       | 95         | 4          | 1          | 100         |
| E2                       | 9          | 0          | 0          | 9           |
| E1                       | 5          | 0          | 0          | 5           |
| <b>Enlisted Subtotal</b> | <b>719</b> | <b>269</b> | <b>165</b> | <b>1153</b> |
| <b>Grand Total</b>       | <b>771</b> | <b>279</b> | <b>191</b> | <b>1241</b> |

**Table 16. Core Requirement, 2006**

| Pay Grade                | Bedrooms   |            |            | Total       |
|--------------------------|------------|------------|------------|-------------|
|                          | 2-         | 3          | 4+         |             |
| O7+                      | 0          | 0          | 1          | 1           |
| O6                       | 0          | 0          | 7          | 7           |
| O5                       | 0          | 9          | 5          | 14          |
| O4                       | 0          | 4          | 2          | 6           |
| O3                       | 46         | 8          | 18         | 72          |
| O2                       | 2          | 1          | 1          | 4           |
| O1                       | 4          | 1          | 2          | 7           |
| <b>Officer Subtotal</b>  | <b>52</b>  | <b>23</b>  | <b>36</b>  | <b>111</b>  |
| E9                       | 0          | 3          | 2          | 5           |
| E8                       | 0          | 14         | 8          | 22          |
| E7                       | 0          | 67         | 25         | 92          |
| E6                       | 76         | 49         | 45         | 170         |
| E5                       | 188        | 82         | 59         | 329         |
| E4                       | 346        | 50         | 25         | 421         |
| E3                       | 95         | 4          | 1          | 100         |
| E2                       | 9          | 0          | 0          | 9           |
| E1                       | 5          | 0          | 0          | 5           |
| <b>Enlisted Subtotal</b> | <b>719</b> | <b>269</b> | <b>165</b> | <b>1153</b> |
| <b>Grand Total</b>       | <b>771</b> | <b>292</b> | <b>201</b> | <b>1264</b> |

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**Table 17. Occupied Military Family Housing (Available Inventory), 2006**  
 (Info for determining customer demand by HCP contractor)

| Pay Grade                | Bedrooms |          |          | Total    |
|--------------------------|----------|----------|----------|----------|
|                          | 2-       | 3        | 4+       |          |
| O7+                      |          |          |          | 0        |
| O6                       |          |          |          | 0        |
| O5                       |          |          |          | 0        |
| O4                       |          |          |          | 0        |
| O3                       |          |          |          | 0        |
| O2                       |          |          |          | 0        |
| O1                       |          |          |          | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       |          |          |          | 0        |
| E8                       |          |          |          | 0        |
| E7                       |          |          |          | 0        |
| E6                       |          |          |          | 0        |
| E5                       |          |          |          | 0        |
| E4                       |          |          |          | 0        |
| E3                       |          |          |          | 0        |
| E2                       |          |          |          | 0        |
| E1                       |          |          |          | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

**Table 18. HMA Inventory (from IHD)**

| Pay Grade                | Bedrooms   |            |            | Total       |
|--------------------------|------------|------------|------------|-------------|
|                          | 2-         | 3          | 4+         |             |
| O7+                      | 0          | 0          | 1          | 1           |
| O6                       | 0          | 0          | 13         | 13          |
| O5                       | 0          | 19         | 3          | 22          |
| O4                       | 0          | 24         | 4          | 28          |
| O3                       | 0          | 80         | 32         | 112         |
| O2                       | 0          | 5          | 2          | 7           |
| O1                       | 0          | 5          | 2          | 7           |
| <b>Officer Subtotal</b>  | <b>0</b>   | <b>133</b> | <b>57</b>  | <b>190</b>  |
| E9                       | 0          |            | 1          | 1           |
| E8                       | 0          | 22         | 13         | 35          |
| E7                       | 0          | 92         | 50         | 142         |
| E6                       | 87         | 85         | 18         | 190         |
| E5                       | 176        | 171        | 37         | 384         |
| E4                       | 172        | 166        | 35         | 373         |
| E3                       | 39         | 38         | 9          | 86          |
| E2                       | 4          | 4          | 0          | 8           |
| E1                       | 2          | 2          | 0          | 4           |
| <b>Enlisted Subtotal</b> | <b>480</b> | <b>580</b> | <b>163</b> | <b>1223</b> |
| <b>Grand Total</b>       | <b>480</b> | <b>713</b> | <b>220</b> | <b>1413</b> |

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**Table 19. Units Available to Satisfy Customer Demand and Surpluses, 2006**  
**(Formerly titled Customer Demand)**

**Note: If the Core Requirement exceeds the available Inventory then this Table presents the deficit.**

| Pay Grade                | Bedrooms    |            |           | Total      |
|--------------------------|-------------|------------|-----------|------------|
|                          | 2-          | 3          | 4+        |            |
| O7+                      | 0           | 0          | 0         | 0          |
| O6                       | 0           | 0          | 6         | 6          |
| O5                       | 0           | 10         | -2        | 8          |
| O4                       | 0           | 20         | 2         | 22         |
| O3                       | -46         | 72         | 14        | 40         |
| O2                       | -2          | 4          | 1         | 3          |
| O1                       | -4          | 4          | 0         | 0          |
| <b>Officer Subtotal</b>  | <b>-52</b>  | <b>110</b> | <b>21</b> | <b>79</b>  |
| E9                       | 0           | -3         | -1        | -4         |
| E8                       | 0           | 8          | 5         | 13         |
| E7                       | 0           | 25         | 25        | 50         |
| E6                       | 11          | 36         | -27       | 20         |
| E5                       | -12         | 89         | -22       | 55         |
| E4                       | -174        | 116        | 10        | -48        |
| E3                       | -56         | 34         | 8         | -14        |
| E2                       | -5          | 4          | 0         | -1         |
| E1                       | -3          | 2          | 0         | -1         |
| <b>Enlisted Subtotal</b> | <b>-239</b> | <b>311</b> | <b>-2</b> | <b>70</b>  |
| <b>Grand Total</b>       | <b>-291</b> | <b>421</b> | <b>19</b> | <b>149</b> |

**Table 20. Distribution of Customer Demand, 2006**

| Pay Grade                | Bedrooms |            |           | Total      |
|--------------------------|----------|------------|-----------|------------|
|                          | 2-       | 3          | 4+        |            |
| O7+                      |          |            |           | 0          |
| O6                       |          |            | 6         | 6          |
| O5                       |          | 21         |           | 21         |
| O4                       |          | 9          |           | 9          |
| O3                       |          | 24         | 10        | 34         |
| O2                       |          | 1          | 1         | 2          |
| O1                       |          | 2          | 1         | 3          |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>57</b>  | <b>18</b> | <b>75</b>  |
| E9                       |          |            |           | 0          |
| E8                       |          | 2          |           | 2          |
| E7                       |          | 10         | 2         | 12         |
| E6                       | 1        | 9          |           | 10         |
| E5                       | 1        | 18         |           | 19         |
| E4                       | 2        | 23         |           | 25         |
| E3                       | 1        | 5          |           | 6          |
| E2                       |          |            |           | 0          |
| E1                       |          |            |           | 0          |
| <b>Enlisted Subtotal</b> | <b>5</b> | <b>67</b>  | <b>2</b>  | <b>74</b>  |
| <b>Grand Total</b>       | <b>5</b> | <b>124</b> | <b>20</b> | <b>149</b> |

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**Table 21. Distribution of Surplus, 2006**

| Pay Grade                | Bedrooms |          |          | Total    |
|--------------------------|----------|----------|----------|----------|
|                          | 2-       | 3        | 4+       |          |
| O7+                      |          |          |          | 0        |
| O6                       |          |          |          | 0        |
| O5                       |          |          |          | 0        |
| O4                       |          |          |          | 0        |
| O3                       |          |          |          | 0        |
| O2                       |          |          |          | 0        |
| O1                       |          |          |          | 0        |
| <b>Officer Subtotal</b>  | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| E9                       |          |          |          | 0        |
| E8                       |          |          |          | 0        |
| E7                       |          |          |          | 0        |
| E6                       |          |          |          | 0        |
| E5                       |          |          |          | 0        |
| E4                       |          |          |          | 0        |
| E3                       |          |          |          | 0        |
| E2                       |          |          |          | 0        |
| E1                       |          |          |          | 0        |
| <b>Enlisted Subtotal</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| <b>Grand Total</b>       | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

**Table 22. Total Requirement (Core Requirement + Distribution of Customer Demand), 2006**

| Pay Grade                | Bedrooms   |            |            | Total       |
|--------------------------|------------|------------|------------|-------------|
|                          | 2-         | 3          | 4+         |             |
| O7+                      | 0          | 0          | 1          | 1           |
| O6                       | 0          | 0          | 13         | 13          |
| O5                       | 0          | 30         | 5          | 35          |
| O4                       | 0          | 13         | 2          | 15          |
| O3                       | 46         | 32         | 28         | 106         |
| O2                       | 2          | 2          | 2          | 6           |
| O1                       | 4          | 3          | 3          | 10          |
| <b>Officer Subtotal</b>  | <b>52</b>  | <b>80</b>  | <b>54</b>  | <b>186</b>  |
| E9                       | 0          | 3          | 2          | 5           |
| E8                       | 0          | 16         | 8          | 24          |
| E7                       | 0          | 77         | 27         | 104         |
| E6                       | 77         | 58         | 45         | 180         |
| E5                       | 189        | 100        | 59         | 348         |
| E4                       | 348        | 73         | 25         | 446         |
| E3                       | 96         | 9          | 1          | 106         |
| E2                       | 9          | 0          | 0          | 9           |
| E1                       | 5          | 0          | 0          | 5           |
| <b>Enlisted Subtotal</b> | <b>724</b> | <b>336</b> | <b>167</b> | <b>1227</b> |
| <b>Grand Total</b>       | <b>776</b> | <b>416</b> | <b>221</b> | <b>1413</b> |

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Table 23. Required Military Family Housing Assets, 2006

| Pay Grade                | Effective Military Families | Military Community | K&E       | Historic Housing | Quality of Life | Floor      | Community Housing Deficit | Core        |
|--------------------------|-----------------------------|--------------------|-----------|------------------|-----------------|------------|---------------------------|-------------|
| O7+                      | 1                           | 0                  | 1         | 0                | 0               | 1          | 0                         | 1           |
| O6                       | 8                           | 1                  | 7         | 0                | 0               | 7          | 2                         | 7           |
| O5                       | 44                          | 5                  | 14        | 0                | 0               | 14         | 2                         | 14          |
| O4                       | 55                          | 6                  | 0         | 0                | 0               | 6          | 1                         | 6           |
| O3                       | 151                         | 15                 | 0         | 0                | 0               | 15         | 72                        | 72          |
| O2                       | 7                           | 0                  | 0         | 0                | 0               | 0          | 4                         | 4           |
| O1                       | 10                          | 1                  | 0         | 0                | 0               | 1          | 7                         | 7           |
| <b>Officer Subtotal</b>  | <b>276</b>                  | <b>28</b>          | <b>22</b> | <b>0</b>         | <b>0</b>        | <b>44</b>  | <b>88</b>                 | <b>111</b>  |
| E9                       | 24                          | 2                  | 1         | 0                | 0               | 2          | 5                         | 5           |
| E8                       | 47                          | 5                  | 0         | 0                | 0               | 5          | 22                        | 22          |
| E7                       | 189                         | 19                 | 0         | 0                | 0               | 19         | 92                        | 92          |
| E6                       | 330                         | 34                 | 0         | 0                | 0               | 34         | 170                       | 170         |
| E5                       | 666                         | 67                 | 0         | 0                | 0               | 67         | 329                       | 329         |
| E4                       | 647                         | 65                 | 0         | 0                | 0               | 65         | 421                       | 421         |
| E3                       | 149                         | 15                 | 0         | 0                | 0               | 15         | 100                       | 100         |
| E2                       | 13                          | 1                  | 0         | 0                | 0               | 1          | 9                         | 9           |
| E1                       | 7                           | 1                  | 0         | 0                | 0               | 1          | 5                         | 5           |
| <b>Enlisted Subtotal</b> | <b>2072</b>                 | <b>209</b>         | <b>1</b>  | <b>0</b>         | <b>0</b>        | <b>209</b> | <b>1153</b>               | <b>1153</b> |
| <b>Grand Total</b>       | <b>2348</b>                 | <b>237</b>         | <b>23</b> | <b>0</b>         | <b>0</b>        | <b>253</b> | <b>1241</b>               | <b>1264</b> |

|   |      |                         |
|---|------|-------------------------|
| Inventory   | 1413 | (A) = Total of Table 18 |
| Average Occupancy Rate (%)  | 98%  | (B) Input               |
| Total Core  | 1264 | (C) = Total of Table 16 |
| Required Housing Assets   | 1413 | (D) Input               |
| ( If (B) >= 98% (D) = greater of Core (C) or Inventory (A);<br>If (B) < 98% (D) = (A) * (B) / (98%) ) |      |                         |

|                                     |     |                         |
|-------------------------------------|-----|-------------------------|
| Available Customer Demand & Surplus | 149 | (E) = Total of Table 19 |
| Available Surplus                   | 0   | (F) = (A) - (D)         |
| Available Customer Demand           | 149 | (G) = (E) - (F)         |
| Surplus Check                       | 0   | (H) = Total of Table 21 |
| Customer Demand Check               | 0   | (I) = Total of Table 20 |

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## Chapter 3 – Community & Infrastructure Improvements - Whole Neighborhood/Area

### 3.1 Community and Infrastructure Overview

The purpose of this chapter is to examine existing neighborhoods at Holloman AFB and to provide recommendations and estimates for improving these neighborhoods to Whole Neighborhood standards. This improvement focus provides a basis for later considering whether replacement of partial or whole neighborhoods should be considered as options at Holloman AFB. Replacement options are separately examined and estimated in Chapter 5.

Family housing at Holloman AFB is divided into eight neighborhood groups:

- 2700-2800 Area
- 2100 Area
- APPR 50-69 Renovated
- APPR 50-69 Unrenovated
- Capehart 2500-2600 Area
- FY 96-02 Replacement Area
- Wherry 2200-2300 Area
- Wherry 2400 Area

Each neighborhood has a relatively distinct character based on circulation patterns, architecture, and to a limited extent, grade of military personnel. All neighborhoods and unit types in the current inventory are listed in Section 4.5.2, Existing & Proposed Unit Grade Mix.

#### Organization

The Community and Infrastructure Analysis and Recommendations are presented in the following sections:

Section 3.1 provides a general description of existing neighborhoods. It also details the basis for the Community/Infrastructure CAMs and Cost Estimates.

Section 3.2 evaluates the surrounding development and examines how this development affects family housing.

Section 3.3 provides analysis and recommendations based on interviews with Base Engineering and Housing and CAMs that were populated during the Field Survey. Recommendations are intended to foster a sense of identification and belonging with the home, street, and neighborhood for each family, and to make the housing areas attractive and a source of pride. Implementation of recommendations will provide families with homes and communities that are comparable in design and amenity with current private-sector housing, and which offer:

- A sense of neighborhood identity through compatible housing styles, architectural features, and landscape development.
- A sense of “Pride of Place” for each resident in the community.
- Adequate transportation and utility systems.
- Properly designed, convenient off-street parking.
- Family support facilities.
- Recreation facilities and athletic areas.
- Quality materials in construction to the fullest extent possible.

Section 3.4 provides graphic plans to illustrate the analysis and recommendations contained in Section 3.3. Both an Analysis Plan and a Development Plan are included for each neighborhood.

Section 3.5 provides estimates for improving neighborhoods to Whole Neighborhood standards as recommended in Section 3.3. Whole Neighborhood estimates use a comprehensive, one-time approach funded by MILCON funds. The Air Force prefers this approach as the most economical means of bringing housing up to current AF standards.

Section 3.6 analyzes Holloman AFB for its housing capacity. A brief analysis examines those areas of the base which could be used for additional family housing.

Section 3.7 looks at potential surplus housing. If Holloman AFB is projected to have surplus housing, those units which should be demolished or diverted to other uses are identified.

This document is conceptual in nature and is not intended for use as working drawings or contract documents. The plans and recommendations within have not been developed for detailed construction.

### 3.1.1 Community and Neighborhood/Area Description

#### Introduction

Family Housing at Holloman Air Force Base is located at the southern end of the base near the main gate on US 70. Housing is split into East and West communities by First Street, the main access road into Holloman Air Force Base. The two communities are further divided into 8 neighborhood areas related to the type, and conditions of units as well as similar community and infrastructure characteristics. Two previously existing neighborhood areas have been removed from this HCP. The 600 Area, consisting of pre-1950 housing, was demolished and the APPR 50-69 Union and Chavez neighborhood area has been combined with the APPR 2100 Area neighborhood area as part of an ongoing FY03 construction project.

The majority of housing at Holloman Air Force Base is made of 2-plex and 4-plex 1-story units laid out on rectilinear street grids with many U-shaped road loops. Unit density varies from moderate in the officer's housing to highly dense neighborhoods of 4-plex and 8-plex units in the lower rank housing neighborhood areas.

Circulation along the major arterial roads, Mesquite Road through the west base community and Santa Fe Drive through the east base community is satisfactory. The many similar looking loop roads and cul-de-sacs do not provide a sense of individual community character and can disorient a driver's perception of location. Recent construction in the FY02 Replacement Area neighborhood area has the shorter cul-de-sac and curvilinear road alignment of modern residential housing. Pedestrian travel is primarily along roadway sidewalks and does not provide recreation or connection opportunities between neighborhood areas or to housing community facilities.

Landscaping overall varies from moderate and varied in the senior officers housing to non-existent and barren in common areas and along many housing roadways. Erosion and heat-gain are problems on exposed soils and unshaded open spaces. Except for the maintained grass lawn of Thrasher Park, housing entry features, common areas and playgrounds are surrounded by exposed soil devoid of shade trees and accent/screen plantings. Screen plantings along arterial roadways, to views of on and off base utility and operational facilities are also lacking.

Family housing at Holloman AFB remains institutional in character, and has not yet taken advantage of low-water requiring native landscaping practices or defined individual neighborhood areas as such through architecture or community features.

#### 2700-2800 Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The 2700-2800 Area is the southern-most base housing located between Mesquite Road, the golf course, and the base perimeter wall. There are three entries into this neighborhood area off of Mesquite Road, which have been moderately landscaped though no entry signage is



*2700-2800 Area - typical deep yards of SOQ units.*



*2700-2800 Area - example of yard to sidewalk grading problem, affects 25% of units.*



*2700-2800 Area - barren common space east of neighborhood area.*

present. Off-street parking is limited, though congestion is not a problem on the local streets.

Recent renovations and medium housing density along a varied configuration of streets provide more attractive views in the officers housing area. Landscaping is moderate with a more varied character than other base neighborhood/areas. Wind screening is desired as a result of dust filled high winds from the adjacent desert landscape.

Large common open spaces exist but are barren and undeveloped. There are three playgrounds in the open spaces of this neighborhood/area.

#### Assets

- Architecturally more attractive units
- More varied unit landscaping
- Varied configuration of streets
- Near golf course

#### Liabilities

- Longer drives to collector streets
- Barren undeveloped open space
- Off-street parking limited
- Many units are subject to high winds, which blow dust and sand from neighboring desert area
- 25% of yard grades do not meet sidewalk edge
- High noise (65 - 70 db) as a result of proximity to existing flight lines

## 2100 Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The 2100 Area is located parallel to and south of Arnold Road near the elementary school. The intersection of Arnold Road and Fairchild Drive is a major access point to the base housing area.

The current 2100 Area is an FY03 funded construction project bounded by Arnold Road on the north, Patterson Avenue on the West, the Wherry 2200-2300 Area and the FY02 Replacement Area on the south and First Street on the West. Fairchild Drive bisects and provides primary access to the neighborhood area; however, the future layout of the local unit roadways is unknown at this time.

The location of the neighborhood is in close proximity to many housing support facilities such as the schools and the Childhood Development Center, as well as the BX, commissary and movie theater. Given the 2100 Area FY03 project boundaries, the 101 proposed units will create low to medium housing density with ample room for development of neighborhood common open space and recreation features. No data is available at the time of this report regarding the type or location of these future existing infrastructure and community features.

A contaminated soil site existed at the east-end of the site at the time of this report. It is assumed the effected area has been utilized as a passive open space buffer to First Street without replacement housing.

#### Assets

- Short distance to schools
- Proximity to housing support facilities
- Moderate proposed unit density

#### Liabilities

- Bounded by high traffic collector streets
- Proximity to contaminated soil site

### APPR 50-69 Renovated Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The APPR 50-69 Renovated Area is located along both sides of Andrews Avenue, just west of First Street. The intersection of Martin Road and First Street is also a



*View to 2100 Area across undeveloped common space.*



*2100 Area - stone used as ground cover treatment for roadway edge on Castle Drive.*



*APPR 50-69 Renovated - common spaces between units require additional landscape or fence screening.*



*APPR 50-69, Unrenovated - neighborhood entry areas require additional development.*



*APPR 50-69, Unrenovated - typical parking island without landscaping.*

major access point to the west base housing. No signage or landscape feature indicates this significance.

Recently renovated, the architectural appearance of this neighborhood area is substantially improved over similar apartment style housing on the base. Appearance problems remain regarding lack of unit and common space landscaping and unenclosed refuse containers. Stone groundcover with the parking islands tends to spill into the lots creating potential safety problems.

#### Assets

- Recently renovated, modern looking
- Landscaped parking islands

#### Liabilities

- Apartment type housing
- Central parking island rock cover tends to spill into parking pavement
- No playground or court facilities

### APPR 50-69, Unrenovated Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The APPR 50-69, Unrenovated Area is located near the base entrance north of Mesquite Road. The intersection of Mesquite Road and First Street is a major access point to all base housing, yet no signage or landscaping marks this entry.

The APPR 50-69, Unrenovated Area is an apartment style parking court. Long architecturally monotonous units with little landscaping enclose a diamond shaped parking lot. The Concrete masonry unit walls along First Street and newly installed fencing gives definition and provides privacy to the units. The rear of the parking court, however, is open to the backs of the adjacent neighborhood/area units. Open space is limited with no available play facilities. Most recreation appears to take

place in the narrow grassed spaces between units or on the parking pavement.

#### Assets

- Close to base entrance
- Adequate off-street parking

#### Liabilities

- Apartment type housing
- Minimal amount of existing trees and canopy cover
- Unscreened views of adjacent units
- No playground or court facilities
- No pedestrian access to base facilities

### Capehart 2500-2600 Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

Located at the northern end of the family housing, the Capehart 2500-2600 Area consists of varied moderately attractive units arranged around a variety of road types. An entry sign on Santa Fe Drive marks one of only two access points into the east base housing.

Landscaping is sporadic, though large existing trees provide desirable shade in this neighborhood/area. Undesirable views of the operations area to the north require additional screening in some areas.

Accessible open space exists in ample quantities around and within the neighborhood/area. The open space between housing clusters is typically barren and undeveloped in appearance.

#### Assets

- Moderate housing density
- Existing mature street trees
- Available open space
- Good access to playgrounds



*Capehart 2500-2600 Area - typical streetscape in neighborhood area.*



*Capehart 2500-2600 Area - covered playground within Valencia Drive.*



*Capehart 2500-2600 Area - decorative wall along First Street provides visual interest and separation.*



*FY96-02 Replacement - The units along Eglin Avenue have a modern residential look.*



*FY96-02 Replacement - exposed utilities require additional screening.*



*Wherry 2200-2300 Area - typical narrow yards, and crowded look of Wherry Neighborhood streets.*

#### Liabilities

- Limited off-street parking
- Adjacent views to industrial areas of base.
- Common areas undeveloped
- Inappropriate tree species

### FY96-02 Replacement

Refer to Section 3.4.1 for the Community Analysis Drawing.

Made up of recently constructed duplex units on cul-de-sac streets and current construction, the FY96-02 Replacement Area has the look and feel of a modern residential subdivision. Landscaping, additional off-street parking and maintained open space greatly enhance the look and feel of the neighborhood/area.

The one obvious deficit in the new construction is the inadequate amount of landscaping around utility structures and playgrounds.

#### Assets

- Low density
- Short cul-de-sacs or curved streets
- Additional off-street parking
- Developed open space

#### Liabilities

- Inconvenient cluster mailboxes
- Highly visible utilities

### Wherry 2200-2300 Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The Wherry 200-2300 Area is located centrally within the base housing area north of Mesquite Avenue. A brick sign without landscaping on Patterson Drive denotes this

access point to base housing. No signage exists at the intersection of Patterson Drive and Mesquite Road.

The largest neighborhood/area on the base, the Wherry 2200-2300 Area also has the highest housing density. The units are of concrete block construction with garage spaces converted to living space. Roads are mainly long loop roads with utility corridors between rows of tightly placed units. Access to playgrounds and large open space is primarily outside of the neighborhood.

#### Assets

- Mature street trees
- Functional hierarchy of streets
- Privacy fencing throughout

#### Liabilities

- High density
- Inappropriate tree species
- Haphazard residential landscaping
- Units fronting collector street
- Inadequate off-street parking
- Unlandscaped common space
- No paved access to playgrounds
- Monotonous street/unit layout

### Wherry 2400 Area

Refer to Section 3.4.1 for the Community Analysis Drawing.

The Wherry 2400 Area is comprised of loop roads and cul-de-sacs along Santa Fe Drive in the southern section of the east base housing. No signage or entry landscaping marks the southern entrance to this east base housing neighborhood/area. On-street parking is common, and further congested by recreational activity occurring mainly on the paved streets and driveways.

Though having a more varied road configuration, the Wherry 2400 Area possesses the same unit type and density problems as the Wherry 2200-2300 Area. Long



*Wherry 2200-2300 Area - open back yards required additional privacy screening and landscaping.*



*Wherry 2400 Area - older cottonwood and Russian-olive street trees should be replaced with the smaller native shade trees.*



*Wherry 2400 Area - common open spaces require more sitting areas and landscaping.*

building facades close to the street are unbroken by significant vegetation. Open spaces and playgrounds are confined and barren in appearance.

#### Assets

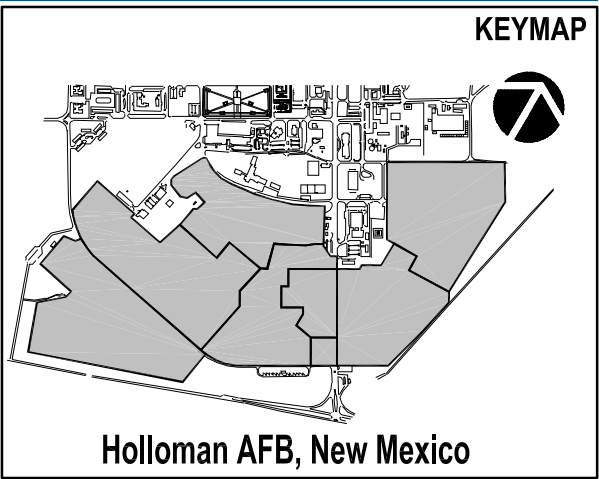
- Mature street trees
- Functional hierarchy of streets
- Privacy fencing throughout

#### Liabilities

- High density
- Inappropriate tree species
- Haphazard residential landscaping
- Inadequate off-street parking
- Unlandscaped common space
- No paved access to playgrounds
- Monotonous street/unit layout

### 3.1.2 Neighborhood/Area Location Map

The following map shows the location of all the neighborhoods at Holloman AFB.



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### 3.1.3 Basis for Community/Infrastructure CAMs

During Field Survey at Holloman AFB, the HCP team used a comprehensive survey developed by the Air Force, called a Condition Assessment Matrix (CAM) to determine the condition of standard components of the community and infrastructure. These components are evaluated for Appearance, Condition, Functionality, Expansion Capacity, Life Expectancy, Energy Compliance (where appropriate), and Life/Safety Compliance.

The neighborhood/area analysis contained in Section 3.3 will describe the condition of each of these standard components as appropriate. Details of the CAM evaluation are found in electronic format in Appendix 1.A. The following standard definitions are used in the neighborhood analysis:

- A final CAM score between 5.00 and 4.20 is described as “excellent” and indicates the condition exceeds Air Force standards.
- A final CAM score between 4.19 and 3.70 is described as “good” and indicates a fully serviceable condition, which meets Air Force standards.
- A final CAM score between 3.69 and 2.70 is described as “fair” and indicates a below-standard condition requiring minor maintenance and repair.
- A final CAM score between 2.69 and 2.00 is described as “poor” and indicates a condition requiring moderate maintenance and repair.
- A final CAM score between 1.99 and 1.00 is described as “deteriorated” and indicates a condition requiring major maintenance and repair.

Recommendations for improvements are provided for all components in less than “good” condition, i.e., with a final score of 3.69 or below. Some components, which score 3.70 or above also have recommendations to resolve deficiencies, which are noted in the analysis.

A summary of all unit types and neighborhoods in the current inventory is listed in Section 4.5.2, Existing and Proposed Unit Grade Mix. This table includes the

CAM score for Community and Infrastructure for each neighborhood/area. This table is the basic framework for all recommendations contained within the HCP.

The components evaluated in the Infrastructure Assessment are:

- Overhead Electrical Distribution
- Underground Electrical Distribution
- Water Distribution System
- Sanitary Sewer System
- Storm Drainage/Flood Control
- Natural Gas System
- Fire Protection
- Steam-District Heating
- Hot Water-District Heating
- Telecommunications System
- Roadway Pavement/Curb and Gutter
- Neighborhood Sidewalks
- Grading
- Housing Management Office
- Housing Supply/Storage Facility
- Housing Maintenance Facility

The components evaluated in the Community Assessment are:

- Parking Lots
- Playgrounds/Recreation Areas
- Common Areas
- Bus Stops
- Boundary Fencing
- Landscaping
- Street Lighting
- Area Lighting
- Crosswalks/Pavement Markings
- Recreation Shelters
- Recreation Courts
- Recreation Fields

### 3.1.4 Basis for Community/Infrastructure Cost Estimates

The purpose of this section is to provide estimates for improving the neighborhood/areas at Holloman AFB to Whole Neighborhood standards. Chapter 5 of this HCP considers whether replacement of partial or whole neighborhoods would be more cost effective than improving existing neighborhood/areas.

A Whole Neighborhood cost estimate is prepared for each recommendation. Whole Neighborhood estimates use a comprehensive, one-time approach funded by MILCON funds. The Air Force prefers this approach as the most economical means of bringing housing up to current AF standards.

Cost estimates are provided using RS Means CostWorks database, a nationally recognized cost estimating system. These estimates are incorporated into a database developed by the Air Force, called the Family Housing Community Profile Database (FHCP DB). This database incorporates Base specific factors into the estimate to tailor the costs especially for Holloman AFB. These factors are:

- CostWorks - 1st Quarter 2001
- Inflation factor to FY2003
- Area Cost Factor (ACF)
- Site Inspection and Overhead (SIOH)
- Contractor's Overhead and Profit
- Contingency

The community/infrastructure cost in this HCP were developed using the 1st quarter 2001 RS Means CostWorks escalated to FY03 with Office of Secretary of Defense published inflation factors. Specific projects, once developed, need to be appropriately escalated to the programmed fiscal year.

An Infrastructure and Community cost estimate is provided for each Neighborhood/Area in Section 3.3 along with the associated Neighborhood/Area analysis

and recommendations. Costs for all Neighborhoods/Areas are summarized in Section 3.5. Detailed community and infrastructure cost estimates are included in the electronic FHCP Database in Appendix I.

Lump sum costs are defined as those items which need to be completed to support construction phases, but may be geographically separated or associated with multiple phases such as a water tower or drainage structure.

Prorated costs are defined as those community/infrastructure items, which are completed simultaneously with unit improvements and their costs are prorated based on number of units improved or replaced within a neighborhood/area.

Sub-section 3.5.2, Stand-Alone Projects is a report that lists certain elements of the Community Development Plan that could be implemented independent of the housing units and neighborhood/area improvements. Usually, these elements involve infrastructure and recreation facilities. For example, upgrading utilities may be completed independently of improvements to individual units. Recreation elements, such as tennis courts, portions of the bike route, and others, are associated with development of the community parks. Where applicable, such elements have been identified so they can be completed independently, if funding becomes available.



## 3.2 Surrounding Development

### 3.2.1 Introduction

Geographically remote, Holloman Air Force Base is 27 miles southwest of Alamogordo, New Mexico and adjacent to the 4,000 square mile White Sands Missile Range. Eleven square miles of Holloman AFB, northwest of the main base, is utilized as a high speed test track. The Holloman Golf Course to the west, and an 8-10' high concrete masonry wall to the south along US Highway 70 buffer the Military Family Housing at Holloman AFB. The east side of the base is visually open and at this time there exists no substantial development encroaching toward the base in the adjacent Dillard Draw floodplain.

Due to the proximity of runways and flight paths to the west Community Base Housing and potential for development east of Holloman AFB, additional visual and sound screening along the perimeter of the Military Family Housing is highly recommended.

Following are brief descriptions of adjacent land uses to the Military Family Housing at Holloman Air Force Base.

### 3.2.2 Analysis

#### West Base Community

The six neighborhood/areas west of First Avenue are bounded on the east and south sides by 8-10' high concrete masonry unit walls, by the Holloman Golf Course on the west side and by the Main Base to the North.

Buffered by 6' high unit privacy fencing and by the Holloman Golf Course, the western most edge of this community is negatively influenced by long views into undeveloped base property and by its proximity to the north-south runway and flight lines. Traffic noise from US Highway 70 to the south of the Military Family Housing is not substantial, though additional sound buffering would be beneficial.

Provide sound dampening material or dense vegetation along perimeter of housing affected by aircraft and highway noise.

Break up long expansive views across undeveloped base and adjacent property with clustered screen plantings of various heights and densities.

### **East Base Community**

The two neighborhood/areas east of First Avenue are bounded on the west and part of south side by 8-10' high concrete masonry unit walls, and by various main base structures to the north. The eastern community edge is screened by neighborhood/area 6' high unit privacy fencing only.

Additional screening is required to eliminate views to base operational facilities along the northern edges of this housing area. As development in the adjacent Dillard Draw floodplain is unlikely, additional dense screening is not required along the eastern perimeter. Some enhancement to this area is necessary to break up long views into the undeveloped floodplain.

### **3.2.3 Recommendations**

The following recommendations are designed to address problems with surrounding development.

Provide planted screening and berms, where practical, between residential areas and collector streets in all housing areas.

Provide planted screening to supplement and soften the visual appearance of Concrete masonry unit walls, between residential uses and adjacent incompatible development.

### 3.3 Community and Infrastructure Improvements

#### 3.3.1 2700-2800 Area

##### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: pole; fair condition. Original overhead distribution reaching end of useful life; has no capacity for expansion.
- Underground Electrical Distribution: none; required.
- Water Distribution System: polyvinyl chloride; fair condition. Water mains are new 6" polyvinyl chloride pipes. Water provided by City of Alamogordo supplemented by the base with well water. High mineral content, meets the standard. Pressure 55 PSI, Adequate quantity. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" polyvinyl chloride. Water supply is master metered at the base. Water valves are insufficient for efficient segregation of the lines for servicing. Occasional breakage is experienced due to the settlement of the grounds.
- Sanitary Sewer System: polyvinyl chloride; fair condition. Pipes are 8" schedule 40 polyvinyl chloride. Infiltration problem is probably at lateral connections or manholes. Lateral connections being repaired. 10-15 percent of manholes require repair/replacement to correct infiltration problem. Wastewater treated at the base. Root encroachment areas are spot repaired/maintained with root killing solution, when repair work is undertaken.
- Storm Drainage/Flood Control: inlet; fair condition. Handled by inlets at low points. Concrete pipes

range in size up to 48". Drainage in good condition. Pipes are installed with gradient not adequate for self-cleaning due to limited availability of differential elevation. Frequent silting of the pipe.

- Natural Gas System: polyethylene; fair condition. Sizes from 2" to 4". All services have been replaced. Adequate valves are not available to segregate lines for servicing. Gas main serves adequately with minimal maintenance.
- Fire Protection: fire hydrant; good condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: overhead; fair condition.
- Roadway Pavement/Curb and Gutter: asphalt; good condition. Street is asphalt on aggregate base. Concrete curb and gutter. Poor alignment of intersection at Quay Loop and Mesquite Road.
- Neighborhood Sidewalks: concrete; fair condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards.
- Grading: fair condition. Roads have curbs graded to drain to inlet or drainage outlet. Grading adjacent to buildings could be improved.
- Housing Management Office: standard; poor condition. Located outside of MFH neighborhood areas. Currently in the remodeled building #71. The Housing Management is privatized. The building has differential floor elevation with sloped transitions. The building is constructed of concrete masonry unit wall with wood trusses. The floor plan is not suitable for new privatized function. Outdoor play area is not provided. The size of the building is in conformance to the standard. The exterior finish (EIFS) is falling apart from the building.
- Housing Supply/Storage Facility: standard; fair condition. Located outside of MFH neighborhood areas. Wood frame, wood trusses and concrete floor. Floor area is 30' x 150'. No loading dock is provided.

- Housing Maintenance Facility: standard; good condition. Located outside of MFH neighborhood areas. Building is pre-engineered metal building. The yard and storage properly environmentally controlled.

### Community Assessment by Neighborhood

- Parking Lots: none; not required. Additional parking lane exists along Mesquite Road north of neighborhood.
- Playgrounds/Recreation Areas: sand; fair condition. Three playgrounds. Sand surface playgrounds are present within the Sandoval Loop, Socorro Loop, and Quay Loop. The Sandoval Loop playground is shaded by a steel and canvas shelter. All playgrounds are not landscaped and do not have sidewalk access to the equipment.
- Common Areas: grass and trees; poor condition. Common areas along and at intersections of roads have stone ground covers and are landscaped. Common areas between units or within the interior open space of loop streets are undeveloped and unattractive areas of barren ground.
- Bus Stops: none; required.
- Boundary Fencing: concrete masonry unit; good condition. Base perimeter fence separates the south side of this neighborhood from the State Route 70 right of way.
- Landscaping: grass and trees; fair condition. Comprised of numerous types of trees, shrubs, ornamental grasses, and native plants of all sizes, landscaping within this neighborhood is the most varied on the base. Neighborhood area entries are typically highlighted using stone and shrub landscaped gardens. Privacy fencing is present behind units blocking views from adjacent roads, but is lacking between individual units.
- Street Lighting: low pressure sodium; fair condition. Widely spaced along the streets.
- Area Lighting: none; required.
- Crosswalks/Pavement Markings: none; required. No painted road stripes, changes in pavement pattern or other methods indicate crosswalks at road intersections.

- Recreation Shelters: metal; fair condition. Shelters exist over or near playgrounds in the 2700-2800 Neighborhood.
- Recreation Courts: concrete; fair condition. A basketball court is located at the southwest corner of Sandoval Loop.
- Recreation Fields: none; required. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: Demolish overhead electric distribution lines and poles.
- Underground Electrical Distribution: replace overhead electrical distribution with an underground electrical distribution system.
- Water Distribution System: provide an additional 50 percent more line valves to segregate water lines for better servicing; replacement of the lines not required, repair and maintain pipes as and when required.
- Sanitary Sewer System: replace 15% of the manholes.
- Storm Drainage/Flood Control: clean open ditches and drainage path.
- Natural Gas System: provide an additional 50 percent more line valves to segregate water lines for better servicing.
- Roadway Pavement/Curb and Gutter: realign intersection at Quay Loop and Mesquite Road.
- Telecommunications System: overhead telecommunication system reaching end of its reliable life. Replace telecommunication system with an underground system along with electrical distribution system.
- Neighborhood Sidewalks: replace 3% of the existing sidewalk, provide new curb ramps at 50% of existing intersections to meet ADA accessibility requirements.
- Grading: improve and maintain positive drainage away from the building; reshape swale and improve

gradient and drainage; 3% of common areas require grading work to swales and slopes.

- Housing Management Office: the building floor plan is not suitable for the privatized conversion of the Housing Management function. New building incorporating other function of HMO will better suit the base. Replace the HMO office with new, suitable for privatized operation.
- Housing Supply/Storage Facility: although the self-help store serves adequately, it occupies prime residential area. If the self-help property is required for residential purposes, replace with new building, near the maintenance facility.

### Community Assessment by Neighborhood

- Playgrounds/Recreation: provide shade and landscaping at all playgrounds to reduce heat gain; provide approved safety surfaces; accommodate varying age groups; provide asphalt paved access to all playgrounds, provide an additional 10 cubic feet of sand at each playground to increase the depth of the safety surface by approximately three inches, provide additional shade and groundcover planting as described in landscaping to alleviate heat gain issues at playgrounds; provide benches or other seating at or near playgrounds.
- Common Areas: xeriscape exposed ground; provide a walking path which connects with other areas of the base; create a park between this neighborhood area and the Family Camp; create a new major entry feature with signage at the intersection of Arriba Drive, Patterson Drive and Mesquite Road, entry sign should be of local wood/stone construction and should be lighted. Provide a minor entry at the south intersection of Arriba Drive and Mesquite Road.
- Bus Stops: provide a bus shelter on Arabia Drive between San Andreas Court and Sacramento Court. Provide a bus shelter on Quay Loop near the proposed connector road to Mesquite Road.
- Landscaping: provide additional streetscape and common area landscaping for greater definition and screening; provide deciduous shade street trees at regular intervals, 50-100' along collector and major roads, screening trees should be of an evergreen species spaced at a maximum of 20 feet apart; intersection landscaping should include shade trees,

ornamental trees and shrubs, provide additional shade trees and landscape screening consisting of mixed deciduous and evergreen shrubs per playground, hard surface court, of walking-trail, major housing entry point and square acre of common open space.

- Street Lighting: should be of residential scale in housing areas, 12 feet for local streets, and 15 feet for collector streets. Overhead lighting as currently installed throughout the MFH should only be utilized on arterial streets; provide higher intensity lighting at intersections; provide decorative lighting poles, bases and fixtures within MFH in place of galvanized and wooden poles currently in use.
- Area Lighting: provide area lighting at multipurpose courts and shelters; provide a 12 to 15 foot overhead area light at each basketball court and two 4 foot bollards at a large shelter.
- Recreation Shelters: provide a small recreation shelter at the southeast corner of Mesquite Road and Arriba Drive; provide two large shelters as shown in the adjacent open space.
- Recreation Courts: provide a basketball court in proximity to the Socorro Loop playground.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within each MFH neighborhood area.

### 3.3.1 2700-2800 Area Infrastructure & Community Improvement Cost Summary

**Base Name: Holloman Air Force Base**

| <b>Infrastructure</b>               | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
|-------------------------------------|-------------------------------|--------------------------------------|
| Overhead Electrical Distribution    | \$25,048                      | P                                    |
| Underground Electrical Distribution | \$455,677                     | P                                    |
| Water Distribution System           | \$65,795                      | P                                    |
| Sanitary Sewer System               | \$12,392                      | P                                    |
| Storm Drainage / Flood Control      | \$3,015                       | P                                    |
| Natural Gas System                  | \$31,005                      | P                                    |
| Fire Protection                     | \$0                           |                                      |
| Steam – District Heating            | \$0                           |                                      |
| Hot Water – District Heating        | \$0                           |                                      |
| Telecommunications System           | \$329,887                     | P                                    |
| Roadway Pavement / Curb and Gutter  | \$29,813                      | P                                    |
| Neighborhood Sidewalks              | \$17,018                      | P                                    |
| Grading                             | \$5,187                       | P                                    |
| Housing Management Office           | \$0                           |                                      |
| Housing Supply/Storage Facility     | \$0                           |                                      |
| Housing Maintenance Facility        | \$0                           |                                      |
| <b>Infrastructure Subtotal</b>      | <b>\$974,837</b>              |                                      |
| <b>Community</b>                    | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
| Parking Lots                        | \$0                           |                                      |
| Playgrounds/Recreations Areas       | \$26,351                      | P                                    |
| Common Areas                        | \$215,259                     | P                                    |
| Bus Stops                           | \$18,519                      | P                                    |
| Boundary Fencing                    | \$0                           |                                      |
| Landscaping                         | \$251,726                     | P                                    |
| Street Lighting                     | \$215,420                     | P                                    |
| Area Lighting                       | \$41,772                      | P                                    |
| Crosswalks/Pavement Markings        | \$1,683                       | P                                    |
| Recreation Shelters                 | \$94,214                      | P                                    |
| Recreation Courts                   | \$40,127                      | P                                    |
| Recreation Fields                   | \$0                           |                                      |
| <b>Community Subtotal</b>           | <b>\$905,070</b>              |                                      |

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|  |                    |
|--|--------------------|
| <b>Subtotal</b>  | <b>\$1,879,907</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$1,842,309</b> |
| <b>SIOH @3.00%</b>   | <b>\$55,269</b>    |
| <b>Contingency @5.00%</b>  | <b>\$94,879</b>    |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$1,992,457</b> |
| <b>Escalation @3.33%</b>   | <b>\$66,349</b>    |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$2,058,806</b> |

### 3.3.2 2100 Area

#### ANALYSIS

##### **Infrastructure Beyond Five Foot Line by Neighborhood**

The 2100 Area is a FY03 funded design/build construction project. At the time of this report no information is available regarding the replacement neighborhood infrastructure or community features.

##### **Community Assessment By Neighborhood**

The 2100 Area is an FY03 funded design/build construction project. At the time of this report no information is available regarding the replacement neighborhood infrastructure or community features.

#### RECOMMENDATIONS

##### **Infrastructure Beyond Five Foot Line by Neighborhood**

All future existing elements of 2100 Area replacement neighborhood area are assumed to be renovated or new, therefore in good to excellent condition requiring no funding from this HCP.

##### **Community Assessment by Neighborhood**

All future existing elements of 2100 Area replacement neighborhood area are assumed to be renovated or new, therefore in good to excellent condition requiring no funding from this HCP.

### 3.3.2 2100 Area Infrastructure & Community Improvement Cost Summary

**Base Name: Holloman Air Force Base**

| <b>Infrastructure</b>               | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
|-------------------------------------|-------------------------------|--------------------------------------|
| Overhead Electrical Distribution    | \$0                           |                                      |
| Underground Electrical Distribution | \$0                           |                                      |
| Water Distribution System           | \$0                           |                                      |
| Sanitary Sewer System               | \$0                           |                                      |
| Storm Drainage / Flood Control      | \$0                           |                                      |
| Natural Gas System                  | \$0                           |                                      |
| Fire Protection                     | \$0                           |                                      |
| Steam – District Heating            | \$0                           |                                      |
| Hot Water – District Heating        | \$0                           |                                      |
| Telecommunications System           | \$0                           |                                      |
| Roadway Pavement / Curb and Gutter  | \$0                           |                                      |
| Neighborhood Sidewalks              | \$0                           |                                      |
| Grading                             | \$0                           |                                      |
| Housing Management Office           | \$0                           |                                      |
| Housing Supply/Storage Facility     | \$0                           |                                      |
| Housing Maintenance Facility        | \$0                           |                                      |
| <b>Infrastructure Subtotal</b>      | \$0                           |                                      |
| <b>Community</b>                    | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
| Parking Lots                        | \$0                           |                                      |
| Playgrounds/Recreations Areas       | \$0                           |                                      |
| Common Areas                        | \$0                           |                                      |
| Bus Stops                           | \$0                           |                                      |
| Boundary Fencing                    | \$0                           |                                      |
| Landscaping                         | \$0                           |                                      |
| Street Lighting                     | \$0                           |                                      |
| Area Lighting                       | \$0                           |                                      |
| Crosswalks/Pavement Markings        | \$0                           |                                      |
| Recreation Shelters                 | \$0                           |                                      |
| Recreation Courts                   | \$0                           |                                      |
| Recreation Fields                   | \$0                           |                                      |
| <b>Community Subtotal</b>           | \$0                           |                                      |

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|  |            |
|--|------------|
| <b>Subtotal</b>  | <b>\$0</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$0</b> |
| <b>SIOH @3.00%</b>   | <b>\$0</b> |
| <b>Contingency @5.00%</b>  | <b>\$0</b> |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$0</b> |
| <b>Escalation @3.33%</b>   | <b>\$0</b> |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$0</b> |

### 3.3.3 APPR 50-69, Renovated

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: none; not required.
- Underground Electrical Distribution: ducted polyvinyl chloride; good condition.
- Water Distribution System: polyvinyl chloride; good condition. Water mains are new 6" polyvinyl chloride pipes. Water is provided by the City of Alamogordo, supplemented by the base with well water. High mineral content, does meet the standard. Pressure 55 PSI, quantity is adequate. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" Polyvinyl chloride. Water supply is master metered at the base.
- Sanitary Sewer System: polyvinyl chloride; good condition. Pipes are 8" schedule 40 polyvinyl chloride. Wastewater treated at the base. Part of the main sewer requires frequent maintenance due to improper gradient.
- Storm Drainage/Flood Control: inlet; good condition. Handled by inlets at low points. Concrete pipes range in size up to 48". Drainage in good condition.
- Natural Gas System: polyethylene; good condition. All services have been replaced. The gas main serves adequately with minimal maintenance.
- Fire Protection: fire hydrant; good condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: underground residential distribution; good condition.

- Roadway Pavement/Curb and Gutter: asphalt; good condition. Concrete curbs. Parking court is asphalt. Adequate drainage.
- Neighborhood Sidewalks: concrete; good condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards.
- Grading: fair condition. Roads have curbs graded to drain to inlet or drainage outlet. 5% of common space drainage is inadequate or ground is saturated.
- Housing Management Office: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Supply/Storage Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.

##### Community Assessment by Neighborhood

- Parking Lots: asphalt; fair condition. A central parking court connected by a short entry is typical. The gravel in the islands throughout these lots spills over the concrete curbs into the asphalt parking area.
- Playgrounds/Recreation Areas: none; required. The nearby park at Martin and Patrick is the closest recreation area.
- Common Areas: grass and trees; fair condition. Units are not crowded together and utilities are underground, providing potentially attractive common spaces when landscaped. Utility structures require additional planted screening.
- Bus Stops: none; not required.
- Boundary Fencing: concrete masonry unit; good condition. The concrete masonry unit wall along the First Avenue edge provides a noise buffer, screening and security, as well as definition to the neighborhood. The character of the walls serves to enhance the quality of the open space along this edge.
- Landscaping: grass and trees; fair condition. Landscaping is sporadic and sparse. Some effort has been made to landscape the common area within the parking lot courts. Foundation plantings, open space screening, entry plantings are necessary.

- Street Lighting: low pressure sodium; fair condition. There are no streetlights at the intersections of the road and entrance drives.
- Area Lighting: low pressure sodium; fair condition. Within the central parking lot island or along the parking lot edge.
- Crosswalks/Pavement Markings: none; required. No painted road stripes, change in pavement patterns or other method indicates crosswalks at road intersections.
- Recreation Shelters: none; required.
- Recreation Courts: none; required.
- Recreation Fields: none; not required. Neighborhood area is too small. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Grading: improve and maintain positive drainage in neighborhood area; 5% of common areas require grading work to swales and slopes.

### Community Assessment by Neighborhood

- Parking Lots: remove existing large gravel in the parking lot islands, provide a combination of decomposed granite stone and low profile/low-water use ground cover to a level not to exceed one inch below top of curb elevation, provide 2 large local stone boulders in each parking island.
- Playgrounds/Recreation: provide a minor playground between Griffis Court and Kessler Court.
- Common Areas: xeriscape exposed ground, provide a walking path which connects with other areas of the base.
- Landscaping: provide additional streetscape and common area landscaping for greater definition and screening; provide deciduous shade street trees at regular intervals, 50-100' along collector and major roads, screening trees should be of an evergreen species spaced at a maximum of 20 feet apart;

intersection landscaping should include two shade trees, four ornamental trees and sixteen shrubs, provide two additional shade trees and landscape screening consisting of sixteen mixed deciduous and evergreen shrubs per playground, hard surface court, 100 feet of walking-trail, and square acre of common open space.

- Street Lighting: provide decorative lighting poles, bases and fixtures within MFH in place of galvanized and wooden poles currently in use; replace all existing lighting with metal decorative posts with globe luminaries, 15 foot tall posts on collector streets and 12 foot tall posts on residential streets and parking courts.
- Area Lighting: provide a 12 to 15 foot overhead area light the basketball court and two 4 foot bollards at the small shelter/playground location.
- Crosswalks/Pavement Markings: provide a painted crosswalk at the intersection of Andrews Drive and Martin Avenue.
- Recreation Shelters: provide a small recreation shelter between Griffis and Kessler Courts.
- Recreation Courts: provide a basketball court between Langley and Griffis Courts.
- Recreation Fields: limited open space, climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

### 3.3.3 APPR 50-69 Renovated Infrastructure & Community Improvement Cost Summary

Base Name: Holloman Air Force Base

| Infrastructure                      | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
|-------------------------------------|-----------------------|------------------------------|
| Overhead Electrical Distribution    | \$0                   |                              |
| Underground Electrical Distribution | \$0                   |                              |
| Water Distribution System           | \$0                   |                              |
| Sanitary Sewer System               | \$0                   |                              |
| Storm Drainage / Flood Control      | \$0                   |                              |
| Natural Gas System                  | \$0                   |                              |
| Fire Protection                     | \$0                   |                              |
| Steam – District Heating            | \$0                   |                              |
| Hot Water – District Heating        | \$0                   |                              |
| Telecommunications System           | \$0                   |                              |
| Roadway Pavement / Curb and Gutter  | \$0                   |                              |
| Neighborhood Sidewalks              | \$0                   |                              |
| Grading                             | \$1,753               | P                            |
| Housing Management Office           | \$0                   |                              |
| Housing Supply/Storage Facility     | \$0                   |                              |
| Housing Maintenance Facility        | \$0                   |                              |
| <b>Infrastructure Subtotal</b>      | <b>\$1,753</b>        |                              |
| Community                           | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
| Parking Lots                        | \$32,258              | P                            |
| Playgrounds/Recreations Areas       | \$94,995              | P                            |
| Common Areas                        | \$28,160              | P                            |
| Bus Stops                           | \$0                   |                              |
| Boundary Fencing                    | \$0                   |                              |
| Landscaping                         | \$49,240              | P                            |
| Street Lighting                     | \$20,599              | P                            |
| Area Lighting                       | \$9,649               | P                            |
| Crosswalks/Pavement Markings        | \$99                  | P                            |
| Recreation Shelters                 | \$12,794              | P                            |
| Recreation Courts                   | \$40,127              | P                            |
| Recreation Fields                   | \$0                   |                              |
| <b>Community Subtotal</b>           | <b>\$287,920</b>      |                              |

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| <b>Subtotal</b>  | <b>\$289,672</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$283,879</b> |
| <b>SIOH @3.00%</b>   | <b>\$8,516</b>   |
| <b>Contingency @5.00%</b>  | <b>\$14,620</b>  |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$307,015</b> |
| <b>Escalation @3.33%</b>   | <b>\$10,224</b>  |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$317,239</b> |

### 3.3.4 APPR 50-69 Unrenovated

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: none; not required.
- Underground Electrical Distribution: ducted polyvinyl chloride; good condition.
- Water Distribution System: polyvinyl chloride; good condition. Water mains are new 6" polyvinyl chloride pipes. Water is provided by the City of Alamogordo, supplemented by the base with well water. High mineral content, does meet the standard. Pressure 55 PSI, quantity is adequate. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" Polyvinyl chloride. Water supply is master metered at the base.
- Sanitary Sewer System: polyvinyl chloride; good condition. The pipes are 8" schedule 40 polyvinyl chloride. Wastewater treated at base. Part of the main sewer requires frequent maintenance due to improper gradient.
- Storm Drainage/Flood Control: surface; poor condition. Surface run off or street gutter discharging to a paved ditch. Occasional flooding is experienced.
- Natural Gas System: polyethylene; good condition. All services have been replaced. The gas main serves adequately with minimal maintenance.
- Fire Protection: fire hydrant; good condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: underground residential distribution; good condition.

- Roadway Pavement/Curb and Gutter: asphalt; good condition. Concrete curbs. Parking court is asphalt. Adequate drainage.
- Neighborhood Sidewalks: concrete; good condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards.
- Grading: fair; poor condition. Roads have curbs graded to drain to inlet or drainage outlet. Culvert outlets need cleaning. Clean the drainage ditch.
- Housing Management Office: none; not required for this neighborhood; refer to Section 3.3.1 Recommendations.
- Housing Supply/Storage Facility: none; not required for this neighborhood; refer to Section 3.3.1 Recommendations.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to Section 3.3.1 Recommendations.

##### Community Assessment by Neighborhood

- Parking Lots: asphalt; fair condition. One large parking court with island serves four eight-plex units. Asphalt paving and concrete curbs are in good condition.
- Playgrounds/Recreation Areas: none; required. Most recreational activity appears to occur on the pavement of the parking lot between the units.
- Common Areas: grass and trees; poor condition. The open space is unattractive and unutilized. Lawn cover is sparse little to no landscaping near the units.
- Bus Stops: none; not required.
- Boundary Fencing: concrete masonry unit; good condition. The concrete masonry unit wall along the First Avenue edge provides a noise buffer, screening and security, as well as definition to the neighborhood. The character of the walls serves to enhance the quality of the open space along this edge.
- Landscaping: grass and trees; poor condition. A few larger trees provide units with some shade but landscaping is otherwise sparse or non-existent. Landscape screening is required around utility structures and between buildings. Privacy fences extend from the back of the units, however there

exists little to no landscaping in the back yards. Ground cover is a mix of poor lawns, stone and barren ground.

- Street Lighting: low pressure sodium; fair condition. No street lighting at the access drive and road intersection.
- Area Lighting: low pressure sodium; fair condition. Within the central parking lot island.
- Crosswalks/Pavement Markings: none; not required.
- Recreation Shelters: none; required.
- Recreation Courts: none; required.
- Recreation Fields: none; not required for an area this small. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Storm Drainage/Flood Control: clean open ditches and drainage path. Clean culverts.
- Grading: clean culvert outlet. Reshape swale and improve gradient and drainage.

### Community Assessment by Neighborhood

- Parking Lots: insufficient available open space to recommend reconfiguration of existing parking or creation of garage parking.
- Playgrounds/Recreation Areas: insufficient open space within neighborhood to recommend creation of additional recreational facilities.
- Common Areas: xeriscape exposed ground; create a landscaped stone swale in existing drainage ditch; define neighborhood edges with additional plantings; provide a walking path which connects with other areas of the base; provide a minor entry on Brooks Court at Mesquite Road as shown on Community Development Plan.
- Landscaping: provide climate appropriate shade trees and shrubs; landscaping should define the neighborhood and spaces within it; provide a mix of evergreen trees and ornamental trees 15 on center

along First Avenue perimeter wall; islands within parking surface should be improved with plantings and a xeriscape ground cover; screen parking from units with additional plantings.

- Street Lighting: replace all existing lighting with metal decorative posts with globe luminaries, 15 foot tall posts on collector streets and 12 foot tall posts on residential streets and parking courts.
- Area Lighting: upgrade existing area lighting to decorative lamp posts 8 to 10 feet in height. Provide one four-foot bollard light centered on walk from lot to each unit complex.
- Recreation Shelters: insufficient available open space to recommend.
- Recreation Courts: insufficient available open space to recommend.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

### 3.3.4 APPR 50-69 Unrenovated Infrastructure & Community Improvement Cost Summary

Base Name: Holloman Air Force Base

| Infrastructure                      | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
|-------------------------------------|-----------------------|------------------------------|
| Overhead Electrical Distribution    | \$0                   |                              |
| Underground Electrical Distribution | \$0                   |                              |
| Water Distribution System           | \$0                   |                              |
| Sanitary Sewer System               | \$0                   |                              |
| Storm Drainage / Flood Control      | \$4,223               | P                            |
| Natural Gas System                  | \$0                   |                              |
| Fire Protection                     | \$0                   |                              |
| Steam – District Heating            | \$0                   |                              |
| Hot Water – District Heating        | \$0                   |                              |
| Telecommunications System           | \$0                   |                              |
| Roadway Pavement / Curb and Gutter  | \$0                   |                              |
| Neighborhood Sidewalks              | \$0                   |                              |
| Grading                             | \$2,438               | P                            |
| Housing Management Office           | \$0                   |                              |
| Housing Supply/Storage Facility     | \$0                   |                              |
| Housing Maintenance Facility        | \$0                   |                              |
| <b>Infrastructure Subtotal</b>      | <b>\$6,661</b>        |                              |
| Community                           | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
| Parking Lots                        | \$0                   |                              |
| Playgrounds/Recreations Areas       | \$0                   |                              |
| Common Areas                        | \$22,375              | P                            |
| Bus Stops                           | \$0                   |                              |
| Boundary Fencing                    | \$0                   |                              |
| Landscaping                         | \$31,060              | P                            |
| Street Lighting                     | \$10,835              | P                            |
| Area Lighting                       | \$18,750              | P                            |
| Crosswalks/Pavement Markings        | \$0                   |                              |
| Recreation Shelters                 | \$0                   |                              |
| Recreation Courts                   | \$0                   |                              |
| Recreation Fields                   | \$0                   |                              |
| <b>Community Subtotal</b>           | <b>\$83,020</b>       |                              |

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| <b>Subtotal</b>  | <b>\$89,681</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$87,887</b> |
| <b>SIOH @3.00%</b>   | <b>\$2,637</b>  |
| <b>Contingency @5.00%</b>  | <b>\$4,526</b>  |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$95,050</b> |
| <b>Escalation @3.33%</b>   | <b>\$3,165</b>  |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$98,215</b> |

### 3.3.5 Capehart 2500-2600 Area

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: pole; fair condition. Original overhead distribution reaching end of useful life; has no capacity for expansion.
- Underground Electrical Distribution: none; required.
- Water Distribution System: polyvinyl chloride; fair condition. Water mains are new 6" polyvinyl chloride pipes. Water is provided by the City of Alamogordo, supplemented by the base with well water. High mineral content, does meet the standard. Pressure 55 PSI, quantity is adequate. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" polyvinyl chloride. Water supply is master metered at the base. Water valves are insufficient for efficient segregation of the lines for servicing.
- Sanitary Sewer System: polyvinyl chloride; fair condition. Pipes are 8" schedule 40 polyvinyl chloride. Infiltration problem is probably at lateral connections or manholes. Lateral connections being repaired. 15 percent of manholes require repair/replacement to correct infiltration problem. Wastewater being treated at base. Root encroachment areas are spot repaired/maintained with root killing solution, when repair work is undertaken.
- Storm Drainage/Flood Control: inlet; good condition. Storm drainage is Handled by inlets at low points. Concrete pipes range in size up to 48". Drainage in good condition. Pipes are installed with gradient not adequate for self-cleaning due to limited availability of differential elevation. Frequent silting of the pipe. In Capehart 2600 Area occasional flooding.
- Natural Gas System: polyethylene; good condition. The sizes vary from 2" to 4". All services have been replaced. Adequate valves are not available to

segregate lines for servicing. The gas main serves adequately with minimal maintenance.

- Fire Protection: fire hydrant; good condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: overhead; fair condition.
- Roadway Pavement/Curb and Gutter: asphalt; good condition. Street is asphalt on aggregate base. Concrete curb and gutter. Adequate drainage. Inlets spacing significantly far apart, major problem not experienced with normal usage. Inadequate access points to neighborhood area from surrounding base.
- Neighborhood Sidewalks: concrete; fair condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards.
- Grading: fair; poor condition. Roads have curbs graded to drain to inlet or drainage outlet. Grading adjacent to buildings could be improved. Foundation damage where drainage is inadequate or ground is saturated.
- Housing Management Office: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Supply/Storage Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.

##### Community Assessment by Neighborhood

- Parking Lots: none; not required; additional off street parking is desired.
- Playground/Recreation Areas: sand; fair condition. Lacks paved accessibility, not shaded. Insufficient benches or seating walls.
- Common Areas: grass and trees; fair condition.
- Bus Stops: none; required.
- Boundary Fencing: none; not required.
- Landscaping: grass and trees; poor condition. Varied plant types; streets lack consistent landscaping,

insufficient shade along streets and for units; little landscape within yards or at building faces.

- Street Lighting: low pressure sodium; fair condition. Widely space along the streets; overhead lights on 25 foot poles; institutional look.
- Area Lighting: none; not required.
- Crosswalks/Pavement Markings: none; required. No painted road stripes, changes in pavement pattern, definition by plantings or other method indicates crosswalks at road intersections.
- Recreation Shelters: metal; fair condition.
- Recreation Courts: concrete; fair condition.
- Recreation Fields: none; required. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: demolish overhead electric distribution lines and poles.
- Underground Electrical Distribution: replace overhead electrical distribution with an underground electrical distribution system.
- Water Distribution System: replacement of the lines not required; provide an additional 50 percent more line valves to segregate water lines for better servicing.
- Sanitary Sewer System: replace 15% of the manholes. Except for maintenance and repair of the main no major replacement is required.
- Telecommunications System: overhead telecommunication system reaching end of its reliable life. Replace telecommunication system with an underground system along with electrical distribution system.
- Roadway/Pavement/Curb and Gutter: provide a neighborhood access road connecting Valencia Drive with Arizona Avenue. Provide additional neighborhood access point to neighborhood on Valencia Drive as shown on concept plans.
- Neighborhood Sidewalks: replace 3% of the existing sidewalk, provide new curb ramps at 50% of existing intersections to meet ADA accessibility requirements.
- Grading: 5% of common areas require grading work to swales and slopes.

### Community Assessment by Neighborhood

- Parking Lots: insufficient available open space to recommend detached garages or off street parking lots.
- Playgrounds/Recreation: provide shade and landscaping at all playgrounds to reduce heat gain; provide approved safety surface; accommodate varying age groups and ADA accessibility; provide benches or other seating at or near playgrounds.
- Common Areas: xeriscape exposed ground. Define neighborhood edges with additional plantings. Provide a walking path which connects with other areas of the base; provide a major entry on Santa Fe and a minor entry on Valencia as shown on Community Development Plan; demolish two units at 2583 Valencia to provide a new neighborhood access road.
- Bus Stops: provide a bus shelter on Santa Fe Drive between Colfax and Valencia Drive.
- Landscaping: institute a comprehensive streetscape program to promote a consistent plant palate and adequate shade; develop differing unit landscape plans to provide varied foundation plantings and residential scale yard landscaping; utilize xeriscape planting areas within unit yards to conserve water; use screen plantings to block views to adjacent non-housing land use; provide additional streetscape and common area landscaping for greater definition and screening; provide deciduous shade street trees at regular intervals, 50-100' along collector and major roads, screening trees should be of an evergreen species spaced at a maximum of 20 feet apart; intersection landscaping should include two shade trees, four ornamental trees and sixteen shrubs, provide two additional shade trees and landscape screening consisting of sixteen mixed deciduous and evergreen shrubs per playground, hard surface court, 100 feet of walking-trail, and square acre of common open space.

- Street Lighting: replace all existing lighting with metal decorative posts with globe luminaries, 15 foot tall posts on collector streets and 12 foot tall posts on residential streets and parking courts.
- Crosswalks/Pavement Markings: provide a brick paver crosswalk at the northwest neighborhood entry on Sante De Drive. Provide painted crosswalks at all road/trail crossings.
- Recreation Shelters: provide a large shelter in proximity to existing playground and court facilities.
- Recreation Courts: provide a hard surface basketball court in open space behind Guadalupe Place.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

### 3.3.5 Capehart 2500-2600 Area Infrastructure & Community Improvement Cost Summary

**Base Name: Holloman Air Force Base**

| <b>Infrastructure</b>               | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
|-------------------------------------|-------------------------------|--------------------------------------|
| Overhead Electrical Distribution    | \$24,240                      | P                                    |
| Underground Electrical Distribution | \$461,601                     | P                                    |
| Water Distribution System           | \$38,462                      | P                                    |
| Sanitary Sewer System               | \$35,944                      | P                                    |
| Storm Drainage / Flood Control      | \$0                           |                                      |
| Natural Gas System                  | \$0                           |                                      |
| Fire Protection                     | \$0                           |                                      |
| Steam – District Heating            | \$0                           |                                      |
| Hot Water – District Heating        | \$0                           |                                      |
| Telecommunications System           | \$307,095                     | P                                    |
| Roadway Pavement / Curb and Gutter  | \$44,424                      | P                                    |
| Neighborhood Sidewalks              | \$15,039                      | P                                    |
| Grading                             | \$4,218                       | P                                    |
| Housing Management Office           | \$0                           |                                      |
| Housing Supply/Storage Facility     | \$0                           |                                      |
| Housing Maintenance Facility        | \$0                           |                                      |
| <b>Infrastructure Subtotal</b>      | <b>\$931,023</b>              |                                      |
| <b>Community</b>                    | <b>Unit Cost<br/>FY2001\$</b> | <b>Lumpsum(L) or<br/>Prorated(P)</b> |
| Parking Lots                        | \$0                           |                                      |
| Playgrounds/Recreations Areas       | \$38,790                      | P                                    |
| Common Areas                        | \$184,478                     | P                                    |
| Bus Stops                           | \$9,301                       | P                                    |
| Boundary Fencing                    | \$0                           |                                      |
| Landscaping                         | \$183,777                     | P                                    |
| Street Lighting                     | \$214,014                     | P                                    |
| Area Lighting                       | \$0                           |                                      |
| Crosswalks/Pavement Markings        | \$4,050                       | P                                    |
| Recreation Shelters                 | \$41,966                      | P                                    |
| Recreation Courts                   | \$40,127                      | P                                    |
| Recreation Fields                   | \$0                           |                                      |
| <b>Community Subtotal</b>           | <b>\$716,501</b>              |                                      |

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| <b>Subtotal</b>  | <b>\$1,647,524</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$1,614,573</b> |
| <b>SIOH @3.00%</b>   | <b>\$48,437</b>    |
| <b>Contingency @5.00%</b>  | <b>\$83,151</b>    |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$1,746,161</b> |
| <b>Escalation @3.33%</b>   | <b>\$58,147</b>    |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$1,804,308</b> |

### 3.3.6 FY96-02 Replacement Area

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: none; not required.
- Underground Electrical Distribution: ducted polyvinyl chloride; excellent condition.
- Water Distribution System: polyvinyl chloride; good condition. Water mains are new 6" polyvinyl chloride pipes. Water is provided by the City of Alamogordo, supplemented by the base with well water. High mineral content, does meet the standard. Pressure 55 PSI, quantity is adequate. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" polyvinyl chloride. Water supply is master metered at the base.
- Sanitary Sewer System: polyvinyl chloride; good condition. Infrastructure in average condition. Pipes are 8" schedule 40 polyvinyl chloride. Wastewater being treated at base.
- Storm Drainage/Flood Control: inlet; excellent condition overall. Infrastructure in fair condition. Concrete pipes range in size up to 48". Drainage in good condition. Occasional flooding is experienced.
- Natural Gas System: polyethylene; good condition overall. Infrastructure in fair condition. The sizes vary from 2" to 4".
- Fire Protection: fire hydrant; good condition. Infrastructure in fair condition. Strategically placed fire hydrants. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: underground residential distribution; excellent condition.
- Roadway Pavement/Curb and Gutter: asphalt; good condition. Concrete curbs. Street in good condition,

replaced less than 1 year. Adequate drainage. Inlets spacing significantly far apart, major problems not experienced with normal usage. Lockheed Avenue dead ends without a vehicular turn around.

- Neighborhood Sidewalks: concrete; fair condition. ADA curb cuts are not in total compliance with the standards.
- Grading: fair condition. Roads have curbs, which are graded to drain to inlet or drainage outlet; common area grading requires minimal improvement.
- Housing Management Office: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Supply/Storage Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.

##### Community Assessment by Neighborhood

- Parking Lots: asphalt; good condition. Additional off street parking spots exists along the road. These are usually two parking places in the open space between units. No additional parking appears necessary. Inadequate parking exists for Thrasher Park along Lockheed Avenue.
- Playgrounds/Recreation Areas: sand; good condition. Playgrounds located in Thrasher Park and on Bernillio Street.
- Common Areas: grass and trees; fair condition; common areas and grass lawns are continuous through neighborhood; Thrasher Park provides a large common greenspace within neighborhood; entry features and uniform streetscaping are lacking.
- Bus Stops: standard; fair condition. Single bus stop, insufficient to cover entire neighborhood area.
- Boundary Fencing: concrete masonry unit; good condition.
- Landscaping: grass and trees; good condition. Trees line the street with a moderate amount of unit landscaping. A moderate amount of unit landscaping has been done by the residents. The character is that of a private residential subdivision. While privacy fences enclose the neighborhood area, none exist between unit backyards making them open and unscreened.

- Street Lighting: low pressure sodium; good condition. Street lights exist at regular intervals, approximately one every-other unit along one side of the road. In cul-de-sac street lighting consists of two low-pressure sodium light poles, one at the main road intersection and one along the cul-de-sac.
- Area Lighting: standard; good condition. Smaller, residential scale area light is present at the Bernillio playground.
- Crosswalks/Pavement Markings: none; required. No painted road stripes, changes in pavement pattern, or other method indicates crosswalks at road intersections.
- Recreation Shelters: metal; good condition. Located in Thrasher Park.
- Recreation Courts: concrete; good condition. Located in Thrasher Park.
- Recreation Fields: none; required. Provided on base outside of MFH neighborhood areas.

provide a minor entry at the intersection of Andrews Drive and Mesquite Road. Provide a minor entry for the new housing road intersection.

- Bus Stops: provide a bus shelter at Andrews Drive at the intersection of Bernillio Court.
- Crosswalks/Pavement Markings: provide brick crosswalks as part of the major housing entry at Martin Avenue and First Street; provide painted crosswalks at road/trail crossings.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Roadway Pavement/Curb and Gutter: provide a cul-de-sac vehicular turn around at the end of Lockheed Avenue.
- Neighborhood Sidewalks: provide new curb ramps at 20% of existing intersections to meet ADA accessibility requirements.
- Grading: improve and maintain positive drainage away from the building; 3% of common areas require grading work to swales and slopes.

### Community Assessment by Neighborhood

- Parking Lots: provide additional parking for 10 cars along Lockheed Avenue.
- Common Areas: xeriscape exposed ground; provide a walking path which connects with other areas of the Base as shown; create a new major entry feature with signage at the intersection of Martin Avenue and First Street, entry sign should be of local wood/stone construction and should be lighted;

### 3.3.6 FY96-02 Replacement Infrastructure & Community Improvement Cost Summary

Base Name: Holloman Air Force Base

| Infrastructure                      | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
|-------------------------------------|-----------------------|------------------------------|
| Overhead Electrical Distribution    | \$0                   |                              |
| Underground Electrical Distribution | \$0                   |                              |
| Water Distribution System           | \$0                   |                              |
| Sanitary Sewer System               | \$0                   |                              |
| Storm Drainage / Flood Control      | \$0                   |                              |
| Natural Gas System                  | \$0                   |                              |
| Fire Protection                     | \$0                   |                              |
| Steam – District Heating            | \$0                   |                              |
| Hot Water – District Heating        | \$0                   |                              |
| Telecommunications System           | \$0                   |                              |
| Roadway Pavement / Curb and Gutter  | \$13,127              | P                            |
| Neighborhood Sidewalks              | \$1,776               | P                            |
| Grading                             | \$2,967               | P                            |
| Housing Management Office           | \$0                   |                              |
| Housing Supply/Storage Facility     | \$0                   |                              |
| Housing Maintenance Facility        | \$0                   |                              |
| <b>Infrastructure Subtotal</b>      | <b>\$17,870</b>       |                              |
| Community                           | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
| Parking Lots                        | \$10,485              | P                            |
| Playgrounds/Recreations Areas       | \$0                   |                              |
| Common Areas                        | \$84,563              | P                            |
| Bus Stops                           | \$0                   |                              |
| Boundary Fencing                    | \$0                   |                              |
| Landscaping                         | \$0                   |                              |
| Street Lighting                     | \$0                   |                              |
| Area Lighting                       | \$0                   |                              |
| Crosswalks/Pavement Markings        | \$3,951               | P                            |
| Recreation Shelters                 | \$0                   |                              |
| Recreation Courts                   | \$0                   |                              |
| Recreation Fields                   | \$0                   |                              |
| <b>Community Subtotal</b>           | <b>\$98,999</b>       |                              |

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| <b>Subtotal</b>  | <b>\$116,869</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$114,532</b> |
| <b>SIOH @3.00%</b>   | <b>\$3,436</b>   |
| <b>Contingency @5.00%</b>  | <b>\$5,898</b>   |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$123,866</b> |
| <b>Escalation @3.33%</b>   | <b>\$4,125</b>   |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$127,991</b> |

### 3.3.7 Wherry 2200-2300 Area

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: pole; fair condition. Original overhead distribution reaching end of useful life; has no capacity for expansion.
- Underground Electrical Distribution: none; required.
- Water Distribution System: polyvinyl chloride; fair condition. Water mains are new 6" polyvinyl chloride pipes. Water is provided by the City of Alamogordo, supplemented by the base with well water. High mineral content, does meet the standard. Pressure 55 PSI, quantity is adequate. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to the housing area. Water service is of 3/4" - 1" polyvinyl chloride. Water supply is master metered at the base. Water valves are insufficient for efficient segregation of the lines for servicing.
- Sanitary Sewer System: polyvinyl chloride; fair condition. Almost 50% of the existing vitrified clay pipes are lined, the remaining are replaced with polyvinyl chloride pipe. Infiltration problem is probably at lateral connections or manholes. Lateral connections being repaired. 10-15 percent of manholes require repair/replacement to correct infiltration problem. Wastewater being treated at base. Root encroachment areas are spot repaired/maintained with root killing solution, when repair work is undertaken. Part of the main sewer requires frequent maintenance due to improper gradient; lined sewer has life of additional 7-10 years and will then require replacement.
- Storm Drainage/Flood Control: surface; fair condition. Storm drainage is by surface run off or street gutter discharging to a paved ditch. Drainage in good condition. Occasional flooding is experienced.
- Natural Gas System: polyethylene; fair condition. Sizes from 2" to 4". All services have been replaced.

Adequate valves are not available to segregate lines for servicing. The gas main serves adequately with minimal maintenance.

- Fire Protection: hydrant; good condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: overhead; fair condition.
- Roadway Pavement/Curb and Gutter: asphalt; good condition. Street is asphalt on aggregate base. Concrete curb and gutter. Adequate drainage. Drainage outlets of the curbs are significantly apart, requiring storm run off to travel long distance and is prone to flooding.
- Neighborhood Sidewalks: concrete; fair condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards. The sidewalks are only on one side of the roadway. Space is not available to add at the other side.
- Grading: fair condition. Roads have curbs graded to drain to inlet or drainage outlet. Grading adjacent to buildings could be improved. Foundation damage where drainage is inadequate or ground is saturated. Swale needs to be reshaped, graded and cleaned. Clean the drainage ditch.
- Housing Management Office: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Supply/Storage Facility: standard; the self-help store is located in the residential area with a large storage yard. The building is renovated masonry wall, wood joist, flat roof construction.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.

##### Community Assessment by Neighborhood

- Parking Lots: none; required. Amount of on street parking indicates need for additional parking areas.
- Playgrounds/Recreation Areas: sand; fair condition. Lack of shade, landscaping, or ground cover creates a poor play environment.

- Common Areas: grass and trees; poor condition. Undeveloped and unattractive areas of barren ground. Little or no visual screening is provided between adjacent streets and neighborhood areas.
- Bus Stops: none; required.
- Boundary Fencing: none; not required.
- Landscaping: grass and trees; poor condition.
- Street Lighting: high pressure sodium; fair condition. Widely space along the streets.
- Area Lighting: none; not required.
- Crosswalks/Pavement Markings: none; required.
- Recreation Shelters: metal; fair condition.
- Recreation Courts: none; required.
- Recreation Fields: none; required. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: demolish overhead electric distribution lines and poles.
- Underground Electrical Distribution: replace overhead electrical distribution with an underground electrical distribution system.
- Water Distribution System: provide an additional 50 percent more line valves to segregate water lines for better servicing.
- Sanitary Sewer System: replace lined pipe with new where the blockage is reoccurring due to pipe settlement; estimated 80' of sewer; replace 15% of the manholes.
- Storm Drainage/Flood Control: clean ditch and drainage path. Replace ditch with pipes. Replace ditches within the housing area with pipes.
- Natural Gas System: provide an additional 50 percent more line valves to segregate gas lines for better servicing.
- Telecommunications System: overhead telecommunication system reaching end of its reliable life. Replace telecommunication system with an underground system along with electrical distribution system.

- Neighborhood Sidewalks: replace 3% of the existing sidewalk, provide new curb ramps at 50% of existing intersections to meet ADA accessibility requirements.
- Grading: improve and maintain positive drainage away from the building; clean culvert outlet; reshape swale and improve gradient and drainage; 3% of common areas require grading work to swales and slopes.

### Community Assessment by Neighborhood

- Parking Lots: insufficient open space to recommend creation of additional detached garages or lots.
- Playgrounds/Recreation: provide a playground at the former Self-help store location on Fairchild Drive. Provide xeriscape vegetative ground cover around playground areas; provide shade and landscaping at all playgrounds to reduce heat gain; provide approved safety surfaces; accommodate varying age groups and ADA accessibility; provide benches or other seating at or near playgrounds.
- Common Areas: xeriscape exposed ground within neighborhood area; define neighborhood edges with additional plantings; provide a walking path which connects with other areas of the base. Provide a major entry at the intersection of Patterson Drive and Mesquite Road. Provide a minor entry at the intersection of Fairchild Drive and Mesquite Road. Provide trail.
- Bus Stops: provide a bus shelter on Patterson Drive between Travis Place and Dona Ana Place; provide a bus shelter on Fairchild Drive between Sierra Loop and Luna Loop.
- Landscaping: overall landscaping is insufficient, provide climate appropriate shade trees and shrubs; provide screen plantings between units to block crosswinds and dust; landscaping should define the neighborhood and spaces within it; provide additional streetscape and common area landscaping for greater definition and screening; provide deciduous shade street trees at regular intervals, 50-100' along collector and major roads, screening trees should be of an evergreen species spaced at a maximum of 20 feet apart; intersection landscaping should include two shade trees, four ornamental trees and sixteen shrubs, provide two additional shade trees

and landscape screening consisting of sixteen mixed deciduous and evergreen shrubs per playground, hard surface court, 100 feet of walking-trail, and square acre of common open space.

- Street Lighting: should be of residential scale in housing areas, 12 feet for local streets, and 15 feet for collector streets. Overhead lighting as currently installed throughout the MFH should only be utilized on arterial streets; provide higher intensity lighting at intersections; provide decorative lighting poles, bases and fixtures within MFH in place of galvanized and wooden poles currently in use; replace all existing lighting with metal decorative posts with globe luminaries, 15 foot tall posts on collector streets and 12 foot tall posts on residential streets and parking courts.
- Crosswalks/Pavement markings: provide painted crosswalk at the intersection of Patterson Drive and Mesquite Avenue; provide painted crosswalk at the intersection of Patterson Drive and Mesquite Avenue; provide painted crosswalks at road/trail crossings.
- Recreation Shelters: provide a large recreation shelter at the former Self-help store location on Fairchild Drive.
- Recreation Courts: provide a hard surface basketball court at the former self-help store location on Fairchild Drive.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

### 3.3.7 Wherry 2200-2300 Area Infrastructure & Community Improvement Cost Summary

Base Name: Holloman Air Force Base

| Infrastructure                      | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
|-------------------------------------|-----------------------|------------------------------|
| Overhead Electrical Distribution    | \$36,360              | P                            |
| Underground Electrical Distribution | \$757,198             | P                            |
| Water Distribution System           | \$61,087              | P                            |
| Sanitary Sewer System               | \$24,610              | P                            |
| Storm Drainage / Flood Control      | \$56,280              | P                            |
| Natural Gas System                  | \$46,507              | P                            |
| Fire Protection                     | \$0                   |                              |
| Steam – District Heating            | \$0                   |                              |
| Hot Water – District Heating        | \$0                   |                              |
| Telecommunications System           | \$528,047             | P                            |
| Roadway Pavement / Curb and Gutter  | \$0                   |                              |
| Neighborhood Sidewalks              | \$23,743              | P                            |
| Grading                             | \$5,600               | P                            |
| Housing Management Office           | \$0                   |                              |
| Housing Supply/Storage Facility     | \$0                   |                              |
| Housing Maintenance Facility        | \$0                   |                              |
| <b>Infrastructure Subtotal</b>      | <b>\$1,539,431</b>    |                              |
| Community                           | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
| Parking Lots                        | \$0                   |                              |
| Playgrounds/Recreations Areas       | \$137,545             | P                            |
| Common Areas                        | \$207,778             | P                            |
| Bus Stops                           | \$18,519              | P                            |
| Boundary Fencing                    | \$0                   |                              |
| Landscaping                         | \$223,109             | P                            |
| Street Lighting                     | \$316,128             | P                            |
| Area Lighting                       | \$0                   |                              |
| Crosswalks/Pavement Markings        | \$396                 | P                            |
| Recreation Shelters                 | \$41,966              | P                            |
| Recreation Courts                   | \$40,127              | P                            |
| Recreation Fields                   | \$0                   |                              |
| <b>Community Subtotal</b>           | <b>\$985,568</b>      |                              |

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| <b>Subtotal</b>  | <b>\$2,524,998</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$2,474,498</b> |
| <b>SIOH @3.00%</b>   | <b>\$74,235</b>    |
| <b>Contingency @5.00%</b>  | <b>\$127,437</b>   |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$2,676,170</b> |
| <b>Escalation @3.33%</b>   | <b>\$89,117</b>    |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$2,765,287</b> |

### 3.3.8 Wherry 2400 Area

#### ANALYSIS

##### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: pole; fair condition. Original overhead distribution reaching end of useful life; has no capacity for expansion.
- Underground Electrical Distribution: none; required.
- Water Distribution System: polyvinyl chloride; fair condition. Water mains are new 6" Polyvinyl chloride pipes. Water provided by the City of Alamogordo supplemented by the base with well water. High mineral content, does meet standard. Pressure 55 PSI, adequate quantity. Pressure fluctuates considerably. Water is treated and stored in the plant and pumped to housing area. Water service is of 3/4" - 1" polyvinyl chloride. Water supply is master metered at the base. Water valves are insufficient for efficient segregation of the lines for servicing.
- Sanitary Sewer System: vitrified clay pipe; poor condition. The existing vitrified clay pipe are lined with polyvinyl chloride. Infiltration problem is probably at lateral connections or manholes. Lateral connections being repaired. 15 percent of manholes require repair/replacement to correct infiltration problem. Wastewater being treated at base. Root encroachment areas are spot repaired/maintained with root killing solution, when repair work is undertaken. Part of the main sewer requires frequent maintenance due to improper gradient; lined sewer has life of additional 7-10 years and will then require replacement.
- Storm Drainage/Flood Control: inlet; good condition. Handled by inlets at low points. Concrete pipes range in size up to 48". Drainage in good condition. Pipes are installed with gradient not adequate for self-cleaning due to limited availability of differential elevation. Frequent silting of the pipe. Occasional flooding.
- Natural Gas System: polyethylene; fair condition. Sizes from 2" to 4". All services have been replaced. Adequate valves are not available to segregate lines for servicing. The gas main serves adequately with minimal maintenance.
- Fire Protection: hydrant; fair condition. Strategically placed fire hydrants. Hydrants are upgraded and properly marked. Adequate quantity and locations. Most valves work properly. Adequate pressure and water volume.
- Steam – District Heating: none; not required.
- Hot Water – District Heating: none; not required.
- Telecommunications System: overhead; fair condition.
- Roadway Pavement/Curb and Gutter: asphalt; fair condition. Street is asphalt on aggregate base. Concrete curb and gutter. Adequate drainage. Inlets spacing significantly far apart, major problem not experienced with normal usage. Inadequate access to neighborhood.
- Neighborhood Sidewalks: concrete; fair condition. Few areas of heaved sidewalks due to tree roots. ADA curb cuts are not in total compliance with the standards. The sidewalks are only on one side of the roadway. Space is not available to add at the other side.
- Grading: fair condition. Roads have curbs graded to drain to inlet or drainage outlet. Grading adjacent to buildings could be improved. Foundation damage where drainage is inadequate or ground is saturated.
- Housing Management Office: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Supply/Storage Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.
- Housing Maintenance Facility: none; not required for this neighborhood; refer to section 3.3.1 Analysis.

##### Community Assessment by Neighborhood

- Parking Lots: none; not required.
- Playgrounds/Recreation Areas: sand; fair condition. A modular play structure exists within South Curry Circle.
- Common Areas: grass and trees; poor condition. Undeveloped and unattractive areas of barren ground.

Little visual screening currently provided between housing and adjacent base industrial areas.

- Bus Stops: none; required.
- Boundary Fencing: concrete masonry unit; good condition. A decorative concrete masonry unit wall separates the west side of the neighborhood are from First Street. Provides a noise buffer, screening and security, as well as a defined edge to the neighborhood.
- Landscaping: grass and trees; fair condition. Varied in density and quality. Highly landscaped and maintained unit landscapes contrast stark undeveloped unit fronts.
- Street Lighting: low pressure sodium; fair condition. Widely spaced.
- Area Lighting: none; not required.
- Crosswalks/Pavement Markings: none; required. No painted road stripes, changes in pavement pattern, or other method indicates crosswalks at road intersections.
- Recreation Shelters: metal; fair condition. A small recreation shelter South Curry Circle.
- Recreation Courts: concrete; fair condition. Located adjacent to playground in Curry Circle.
- Recreation Fields: none; required. Provided on base outside of MFH neighborhood areas.

## RECOMMENDATIONS

### Infrastructure Beyond Five Foot Line by Neighborhood

- Overhead Electrical Distribution: demolish overhead electric distribution lines and poles.
- Underground Electrical Distribution: replace overhead electrical distribution with an underground electrical distribution system.
- Water Distribution System: provide an additional 50 percent more line valves to segregate water lines for better servicing.
- Sanitary Sewer System: sanitary main needs replacement behind 2418 Eddy Loop. Sanitary main needs replacement 2486 B Curry Circle South. Replace 15% of the manholes. Replace lined pipe

with new where the blockage is reoccurring due to pipe settlement, estimate 120' of sewer.

- Natural Gas System: provide an additional 50 percent more line valves to segregate gas lines for better servicing.
- Telecommunications System: overhead telecommunication system reaching end of its reliable life. Replace telecommunication system with an underground system along with electrical distribution system.
- Roadway Pavement/Curb and Gutter: provide a neighborhood access road connecting Eddy Loop with First Street.
- Neighborhood Sidewalks: replace 3% of the existing sidewalk, provide new curb ramps at existing intersections to meet ADA accessibility requirements.
- Grading: 5% of common areas require grading work to swales and slopes.

### Community Assessment by Neighborhood

- Parking Lots: insufficient open space to recommend creation of additional detached garages or parking lots.
- Playgrounds/Recreation: provide arid tolerant vegetative ground cover around play surfaces.
- Common Areas: xeriscape exposed ground; define neighborhood edges with additional plantings; provide a walking path which connects with other areas of the base; provide a major entry and a minor entry on Santa Fe and a minor entry on Eddy Loop as shown on Community Development Plan.
- Bus Stops: provide a bus shelter on Santa Fe Drive between Curry Circle and Eddy Loop.
- Landscaping: enhance existing landscaping and provide a more consistent landscape treatment to all units; provide residential scale landscape street trees; landscaping should define the neighborhood and spaces within it.
- Street Lighting: should be of residential scale in housing areas, 12 feet for local streets, and 15 feet for collector streets. Overhead lighting as currently installed throughout the MFH should only be utilized on arterial streets; provide higher intensity lighting at intersections; provide decorative lighting poles, bases and fixtures within MFH in place of galvanized

and wooden poles currently in use; replace all existing lighting with metal decorative posts with globe luminaries, 15 foot tall posts on collector streets and 12 foot tall posts on residential streets.

- Crosswalks/Pavement Markings: provide a brick paver crosswalk at the Southwest neighborhood entry on Sante Fe Drive. Provide painted crosswalks at all road/trail crossings.
- Recreation Shelters: provide a large picnic shelter in the open space between First Street and Eddy Loop.
- Recreation Courts: provide a multi-purpose court nearby the existing playground within South Curry Circle.
- Recreation Fields: climate and high maintenance costs of non-unit grass areas prohibit recommendation of sports fields within MFH.

### 3.3.8 Wherry 2400 Area Infrastructure & Community Improvement Cost Summary

Base Name: Holloman Air Force Base

| Infrastructure                      | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
|-------------------------------------|-----------------------|------------------------------|
| Overhead Electrical Distribution    | \$18,180              | P                            |
| Underground Electrical Distribution | \$386,629             | P                            |
| Water Distribution System           | \$44,118              | P                            |
| Sanitary Sewer System               | \$30,798              | P                            |
| Storm Drainage / Flood Control      | \$0                   |                              |
| Natural Gas System                  | \$33,588              | P                            |
| Fire Protection                     | \$0                   |                              |
| Steam – District Heating            | \$0                   |                              |
| Hot Water – District Heating        | \$0                   |                              |
| Telecommunications System           | \$251,305             | P                            |
| Roadway Pavement / Curb and Gutter  | \$41,110              | P                            |
| Neighborhood Sidewalks              | \$11,328              | P                            |
| Grading                             | \$5,429               | P                            |
| Housing Management Office           | \$0                   |                              |
| Housing Supply/Storage Facility     | \$0                   |                              |
| Housing Maintenance Facility        | \$0                   |                              |
| <b>Infrastructure Subtotal</b>      | <b>\$822,485</b>      |                              |
| Community                           | Unit Cost<br>FY2001\$ | Lumpsum(L) or<br>Prorated(P) |
| Parking Lots                        | \$0                   |                              |
| Playgrounds/Recreations Areas       | \$2,734               | P                            |
| Common Areas                        | \$205,338             | P                            |
| Bus Stops                           | \$9,301               | P                            |
| Boundary Fencing                    | \$0                   |                              |
| Landscaping                         | \$203,293             | P                            |
| Street Lighting                     | \$158,669             | P                            |
| Area Lighting                       | \$0                   |                              |
| Crosswalks/Pavement Markings        | \$3,951               | P                            |
| Recreation Shelters                 | \$41,966              | P                            |
| Recreation Courts                   | \$40,127              | P                            |
| Recreation Fields                   | \$0                   |                              |
| <b>Community Subtotal</b>           | <b>\$665,377</b>      |                              |

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| <b>Subtotal</b>  | <b>\$1,487,862</b> |
| <b>ACF (0.98) Adjusted Subtotal</b>                              | <b>\$1,458,105</b> |
| <b>SIOH @3.00%</b>   | <b>\$43,743</b>    |
| <b>Contingency @5.00%</b>  | <b>\$75,092</b>    |
| <b>Adjusted Subtotal Cost ( FY2001\$)</b>                        | <b>\$1,576,941</b> |
| <b>Escalation @3.33%</b>   | <b>\$52,512</b>    |
| <b>Neighborhood/Area Infra./Community Total Cost ( FY2003\$)</b> | <b>\$1,629,453</b> |

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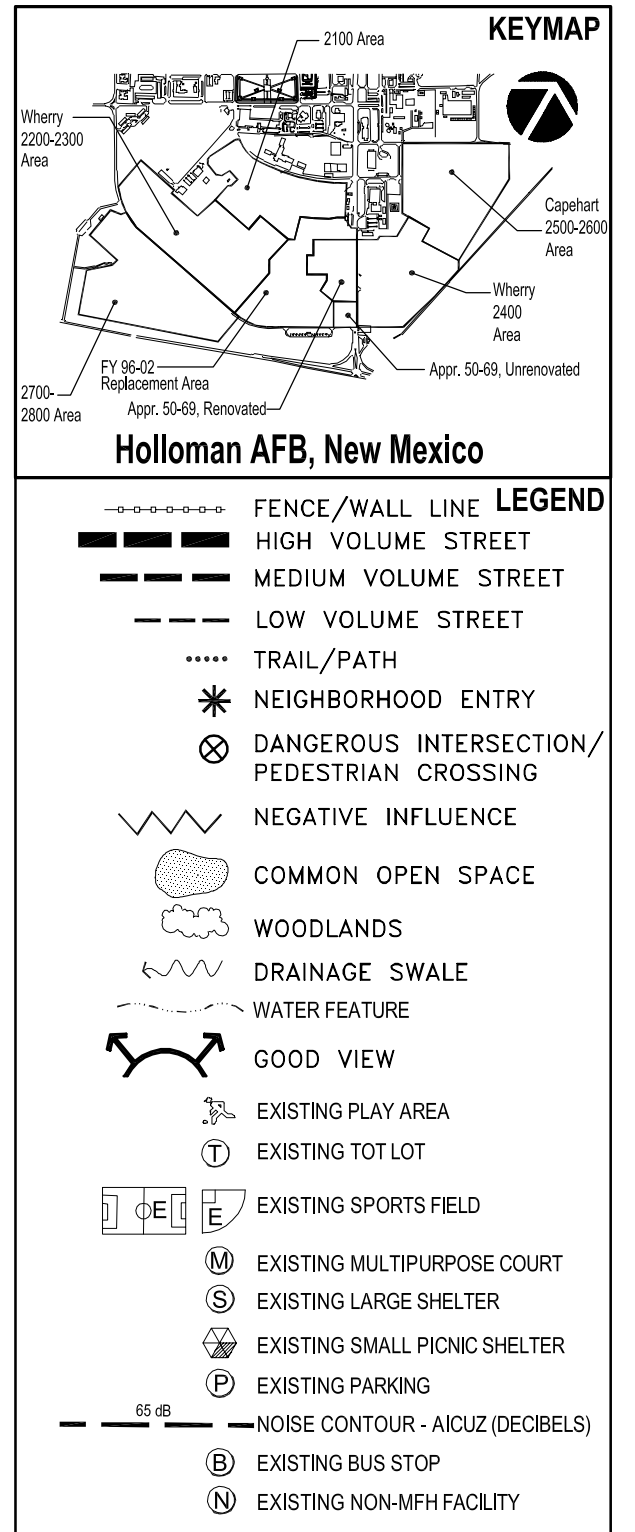
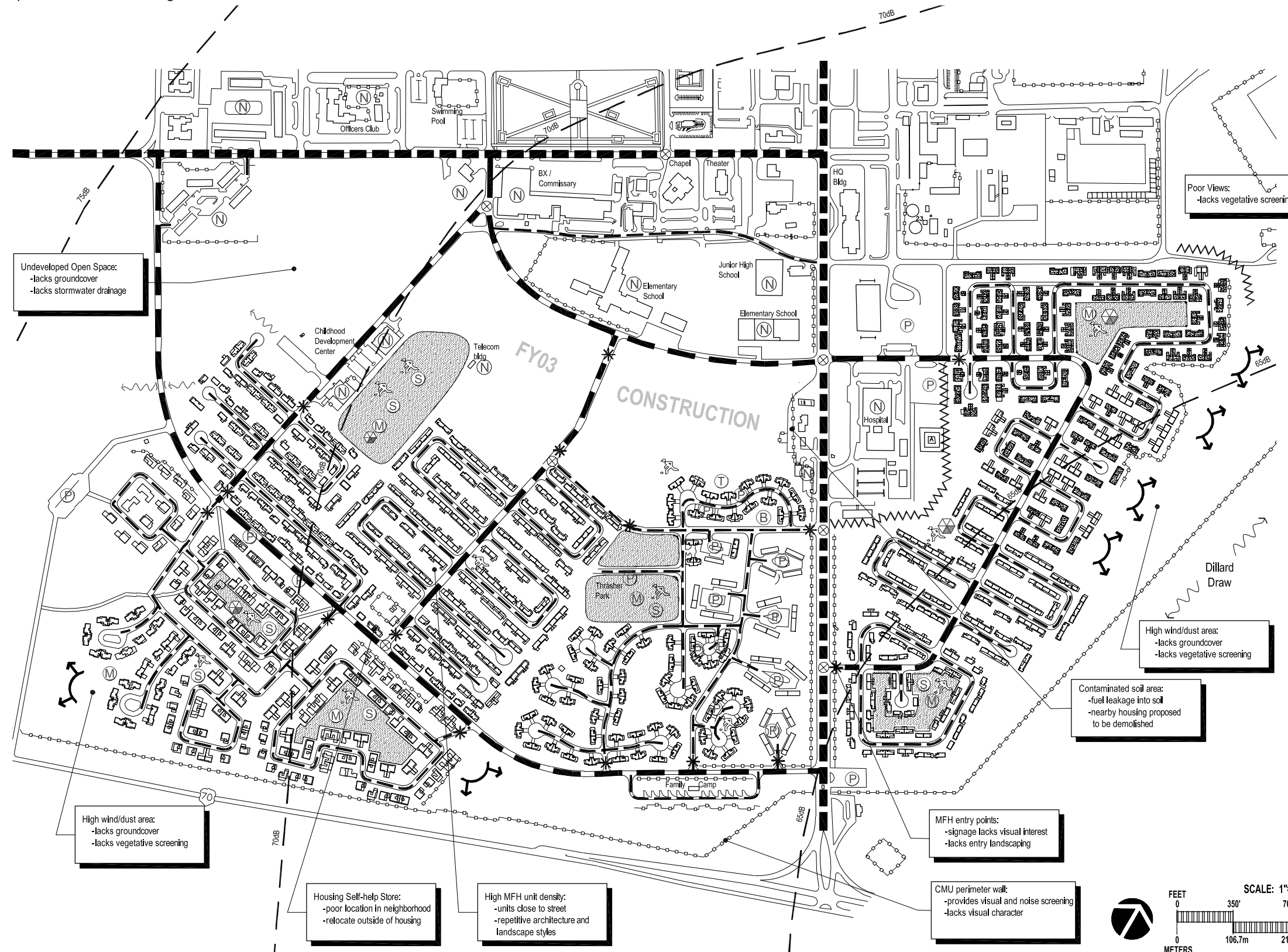
## **3.4 Community Development Plans**

### **3.4.1 Analysis and Concept Development Plans**

The following are plans that illustrate existing conditions and improvement plans for the family housing of Holloman AFB.

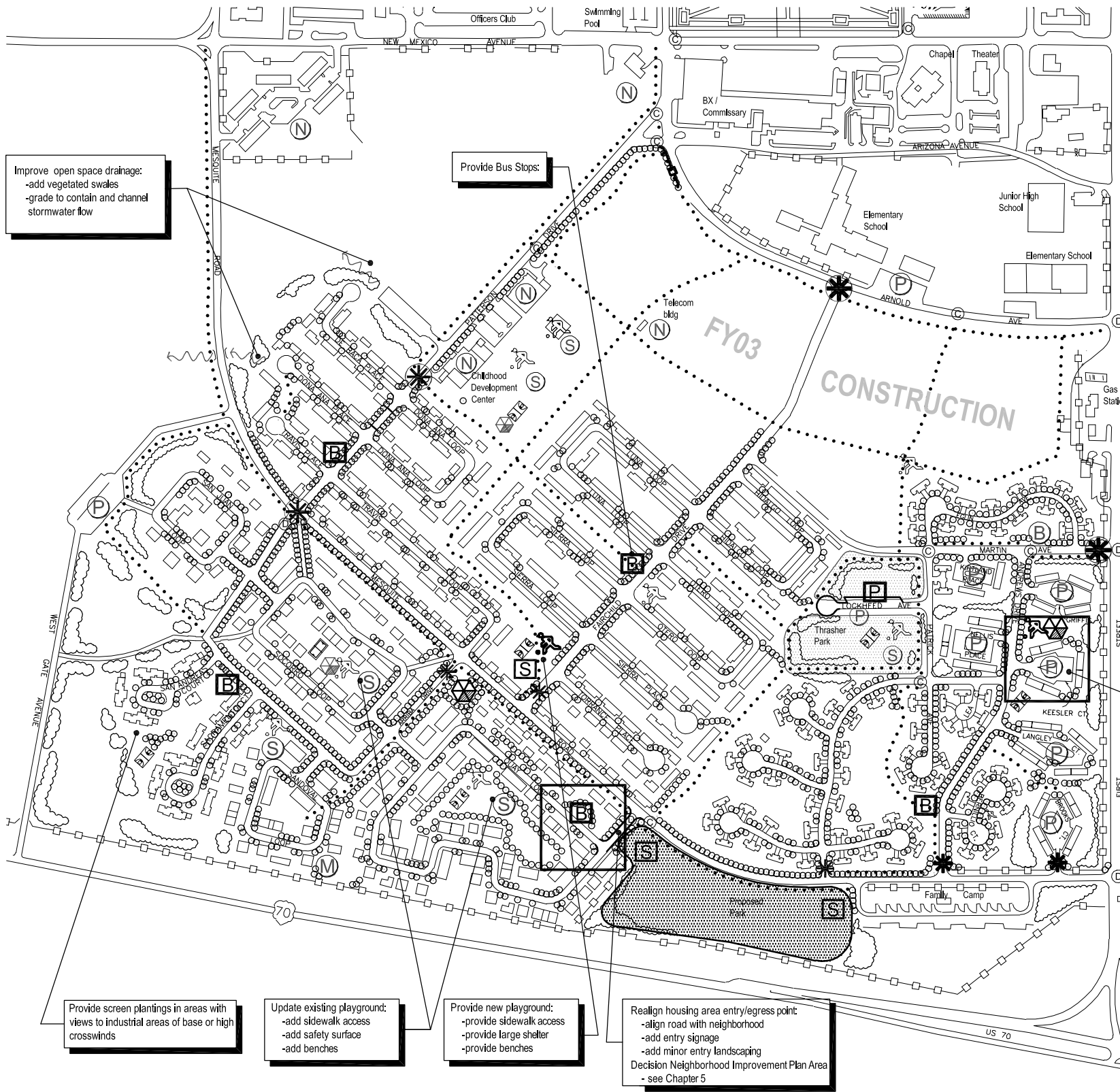
- Community Analysis Plan - All Neighborhood Areas
- Community Concept Development Plan - West Neighborhood Areas
- Community Development Plan - East Neighborhood Areas

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**Community Analysis Plan -  
All Neighborhood Areas**

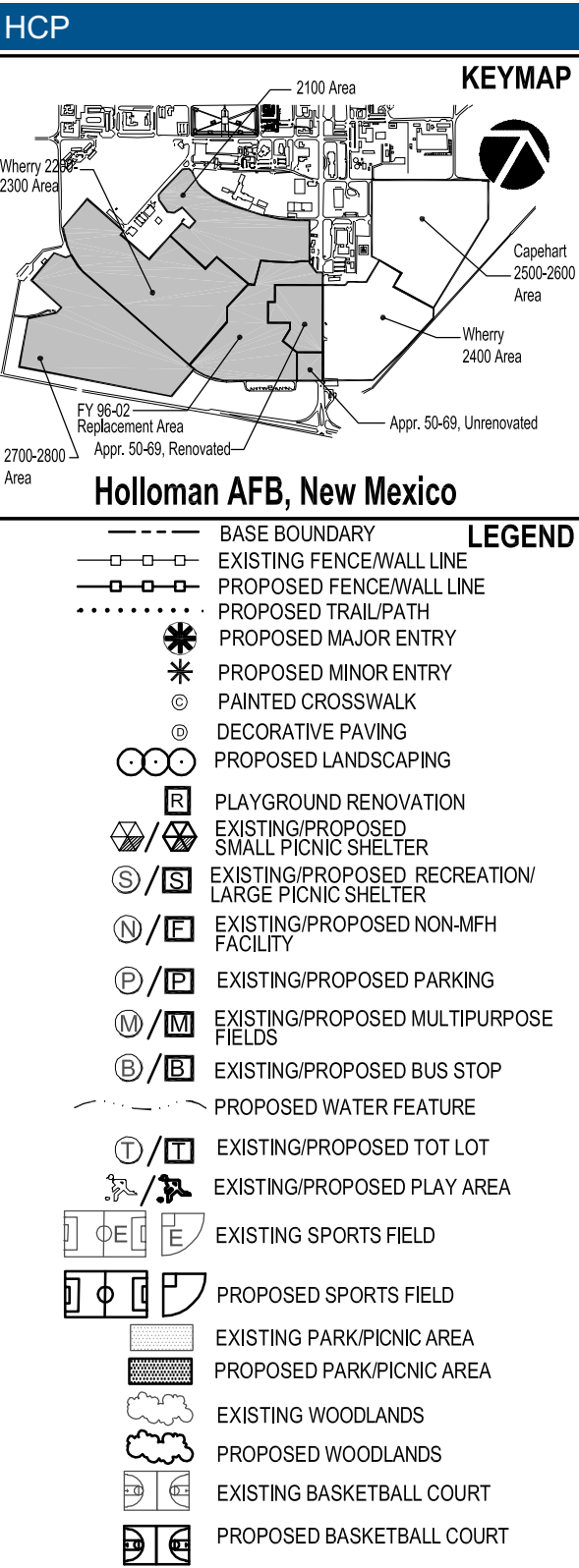
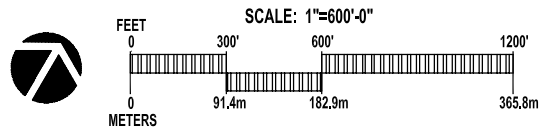
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**Proposed General Improvements**

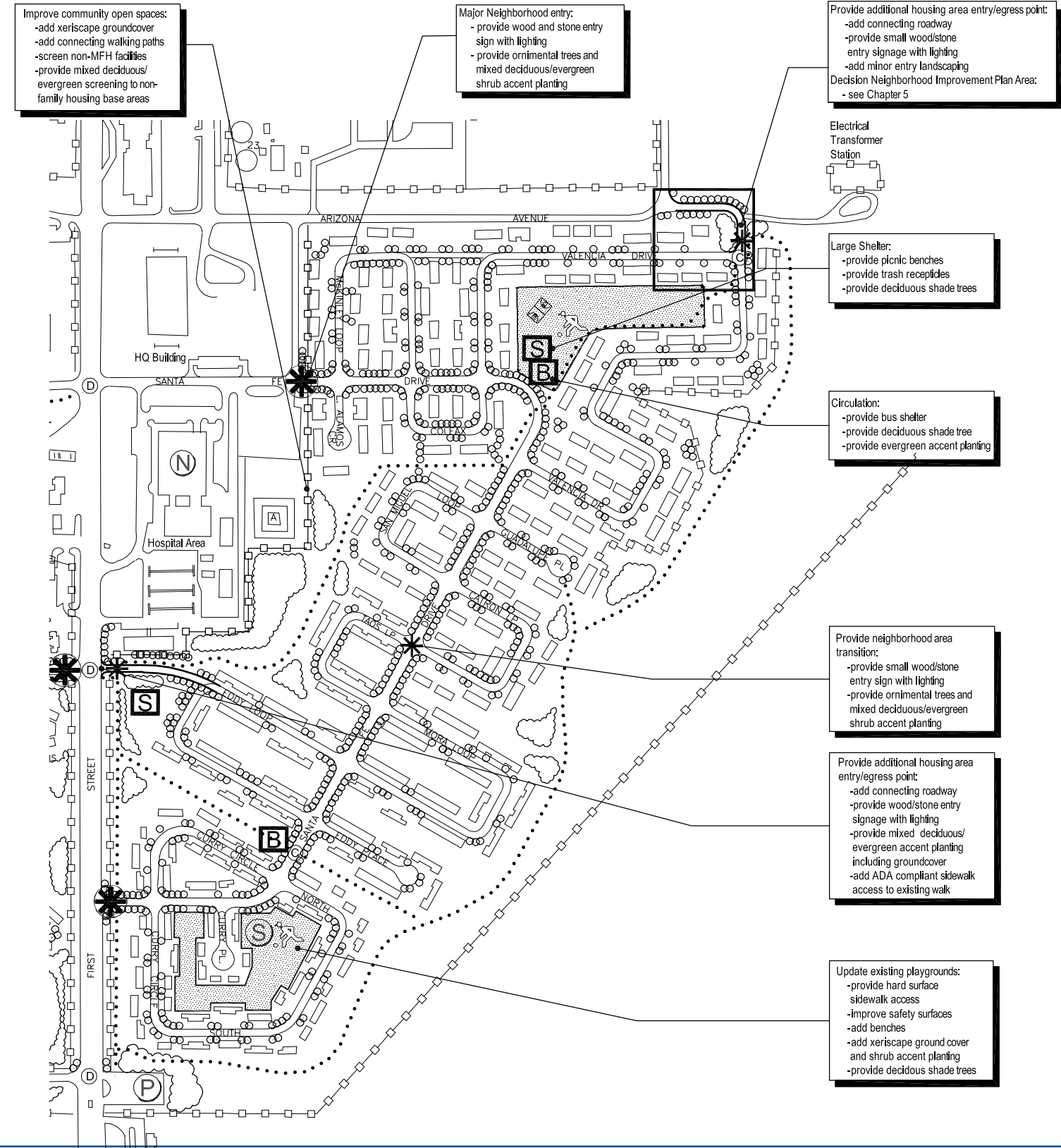
1. Utilize regional xeriscape vegetation in common areas, recreation spaces and around units  
-Provide adequate numbers of shade trees  
-Provide several unit landscape plans to ensure visual variety between the units  
-Provide low maintenance xeriscape ground cover and landscaping on exposed soils
2. Complete sidewalk system:  
-Provide walks on both sides of streets  
-Provide ADA-compliant ramps at all sidewalk and trail/path road crossings
3. Convert overhead utility lines to an underground system
4. Implement a comprehensive street landscape program:  
-Establish a consistent and climate-appropriate plant palate  
-Ensure adequate shade  
-Plant street trees at regular intervals (30-50' depending on species) along major streets  
-utilize low maintenance xeriscape vegetation along streets in place of lawn or stone ground covers
5. Provide crosswalks at all major intersections and trail/path road crossings.
6. Replace street lighting with light posts that are appropriate in scale and style for a residential neighborhood.
7. Replace or upgrade existing playgrounds to :  
-Meet CPSC standards  
-Provide ADA and multi-age accessibility
8. Upgrade and improve existing recreation spaces and common open spaces.  
-Provide additional landscaping and xeriscape groundcover  
-Provide additional benches
9. Landscape neighborhood entry points/features in a manner that creates a positive first impression of the Military Family Housing Community.

Decision Neighborhood Improvement Plan Area:  
- see Chapter 5



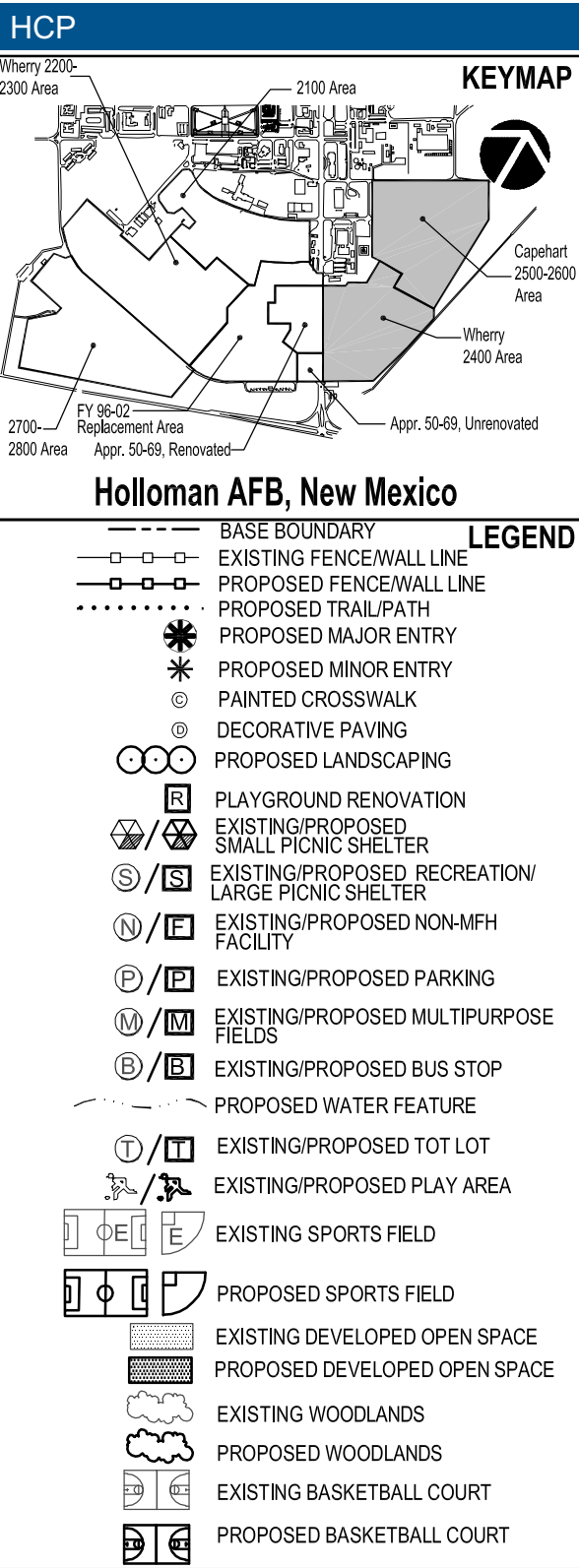
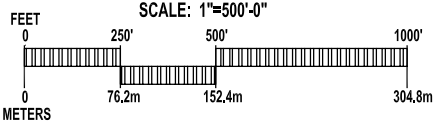
**Community Concept Development Plan-  
West Neighborhood Areas**

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**Proposed General Improvements**

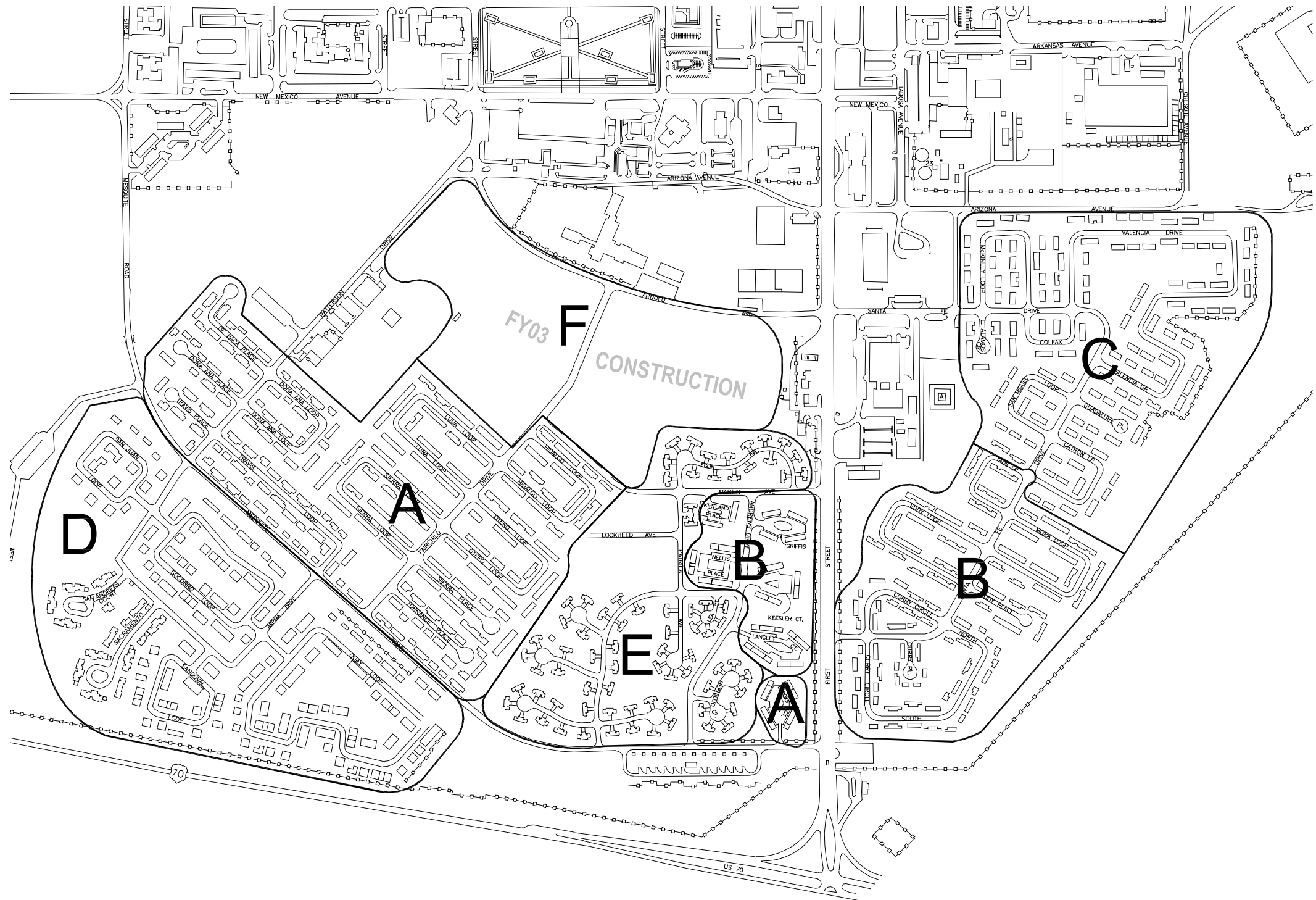
1. Utilize regional xeriscape vegetation in common areas, recreation spaces and around units
  - Provide adequate numbers of shade trees
  - Provide several unit landscape plans to ensure visual variety between the units
  - Provide low maintenance xeriscape ground cover and landscaping on exposed soils
2. Complete sidewalk system:
  - Provide walks on both sides of streets
  - Provide ADA-compliant ramps at all sidewalk and trail/path road crossings
3. Convert overhead utility lines to an underground system
4. Implement a comprehensive street landscape program:
  - Establish a consistent and climate-appropriate plant palate
  - Ensure adequate shade
  - Plant street trees at regular intervals (30-50' depending on species) along all streets
  - utilize low maintenance xeriscape vegetation along streets in place of lawn or stone ground covers
5. Provide crosswalks at all major intersections and trail/path road crossings.
6. Replace street lighting with lightposts that are appropriate in scale and style for a residential neighborhood.
7. Replace or upgrade existing playgrounds to :
  - Meet CPSC standards
  - Provide ADA and multi-age accessibility
8. Upgrade and improve existing recreation spaces and open spaces.
  - Provide additional landscaping and xeriscape groundcover
  - Provide additional benches
9. Landscape neighborhood entry points in a manner that creates a positive first impression of the Military Family Housing Community.



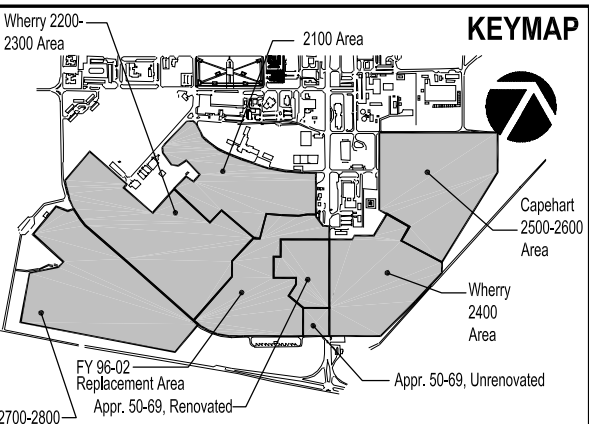
**Community Concept Development Plan-  
East Neighborhood Areas**

3.4.2 Concept Phasing Plans

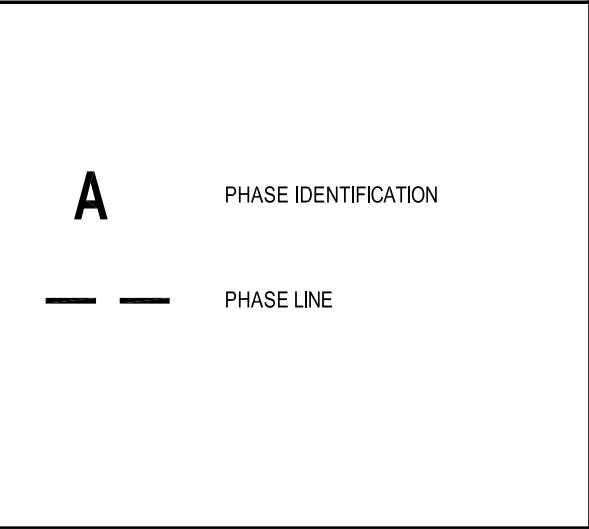
The following Concept Phasing Plan illustrates recommended priorities by neighborhood based on the whole neighborhood/whole house analysis contained in Chapters 3 and 4.



HCP

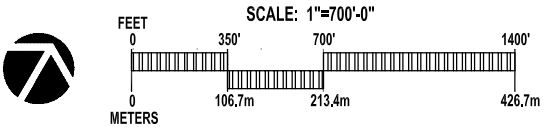


Holloman AFB, New Mexico



Recommended Phasing Plan Priorities - Community and Unit Improvements

- Phase A Improvements - Wherry 2200-2300 Area
- Phase B Improvements - Wherry 2400 Area and Appr.50-69, Unrenovated
- Phase C Improvements - Capehart 2500-2600 Area
- Phase D Improvements - 2700-2800 Area and Appr.50-69, Renovated
- Phase E Improvements - FY-02 Replacement Area
- Phase F Improvements - 2100 Area (previously funded FY-03 construction)



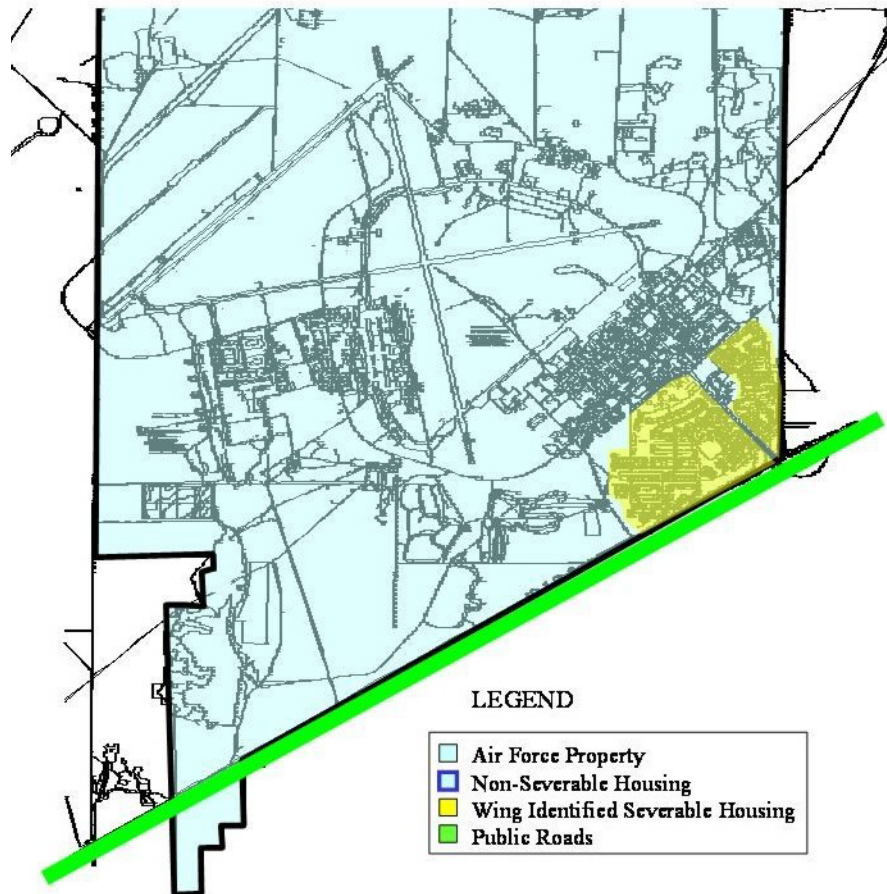
Concept Phasing Priority Plan - All  
Neighborhood Areas

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### 3.4.3 Severable Housing Areas

The AF guidance is that privatized MFH will be physically separate (geographically separate or severable) from other installation functions. Accordingly, to be eligible for privatization, it must be possible, but not required, to place a fence around the MFH area and to obtain access to the area from a public road. This ensures that if, at a later date, the demand by military families is insufficient to fill all housing, alternate civilian renters could access the housing estate without entering the operation portion of the installation. The installation commander determines whether the housing estate or any portion of the housing estate meets this criterion.

The installation commander at Holloman AFB has determined that the housing estate is severable. Holloman Housing is currently a candidate for Privatization (in the FY04 program).



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## **3.5 Community and Infrastructure Cost Estimate Database Reports**

### **3.5.1 Introduction**

The data in the following “Community Improvement Cost Summary by Neighborhood/Area” report summarizes all Neighborhood/Area estimates from Section 3.3.

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### 3.5.2 Community & Infrastructure Cost Summary By Neighborhood/Area

**Base Name:** Holloman Air Force Base

| <b>Neighborhood/Area</b> | <b>Community Cost<br/>FY2003\$</b> | <b>Infrastructure Cost<br/>FY2003\$</b> | <b>Total Cost<br/>FY2003\$</b> |
|--------------------------|------------------------------------|---|--------------------------------|
| 2100 Area                | \$0                                | \$0                                     | \$0                            |
| 2700-2800 Area           | \$991,200                          | \$1,067,606                             | \$2,058,806                    |
| APPR 50-69 Renovated     | \$315,319                          | \$1,919                                 | \$317,239                      |
| APPR 50-69 Unrenovated   | \$90,921                           | \$7,295                                 | \$98,215                       |
| Capehart 2500-2600 Area  | \$784,686                          | \$1,019,622                             | \$1,804,308                    |
| FY96-02 Replacement      | \$108,420                          | \$19,571                                | \$127,991                      |
| Wherry 2200-2300 Area    | \$1,079,358                        | \$1,685,929                             | \$2,765,287                    |
| Wherry 2400 Area         | \$728,697                          | \$900,756                               | \$1,629,453                    |
| <b>Total</b>             | <b>\$4,098,602</b>                 | <b>\$4,702,697</b>                      | <b>\$8,801,298</b>             |

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### 3.5.3 Stand-Alone Project(s) Cost Summary

**Base Name:** Holloman Air Force Base

| <b>Project(s) Name</b>          | <b>Cost<br/>FY2003\$</b> |
|---------------------------------|--------------------------|
| Housing Management Office       | \$730,182                |
| Housing Supply/Storage Facility | \$576,972                |
| <b>Total Cost</b>               | <b>\$1,307,154</b>       |

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## **3.6 Base Capacity Analysis – Land Development**

### **3.6.1 Introduction**

A major consideration in assessing demand for and programming new housing is whether there is land available for such construction. The following section provides an overview of possibilities for future housing.

### **3.6.2 Available Sites**

Additional land for new and replacement housing at Holloman Air Force Base is limited due to the density of existing development, flight noise zones and clear zones, and environmentally sensitive lands north of the current base development. The proposed demolition of the 600 Area neighborhood area provides an opportunity to combine this land with the adjacent undeveloped land to the south. A new neighborhood area, similar in size and character to the FY96-02 neighborhood, should be created to reduce housing density in both of the Wherry housing neighborhoods. Adjacent land to the East OF Base housing has potential for development but may encroach on the Dillard Draw 100 year floodplain and environmentally sensitive ecosystems.

Expansion opportunities also exist in the utilization of currently unused housing capacity at the nearby White Sands Missile Range military family housing area.

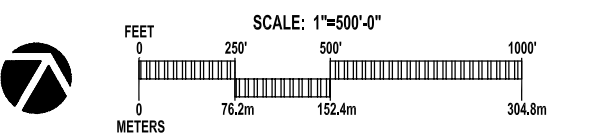
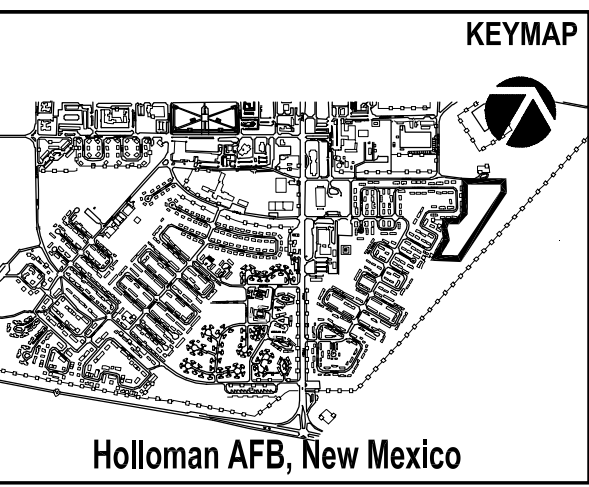
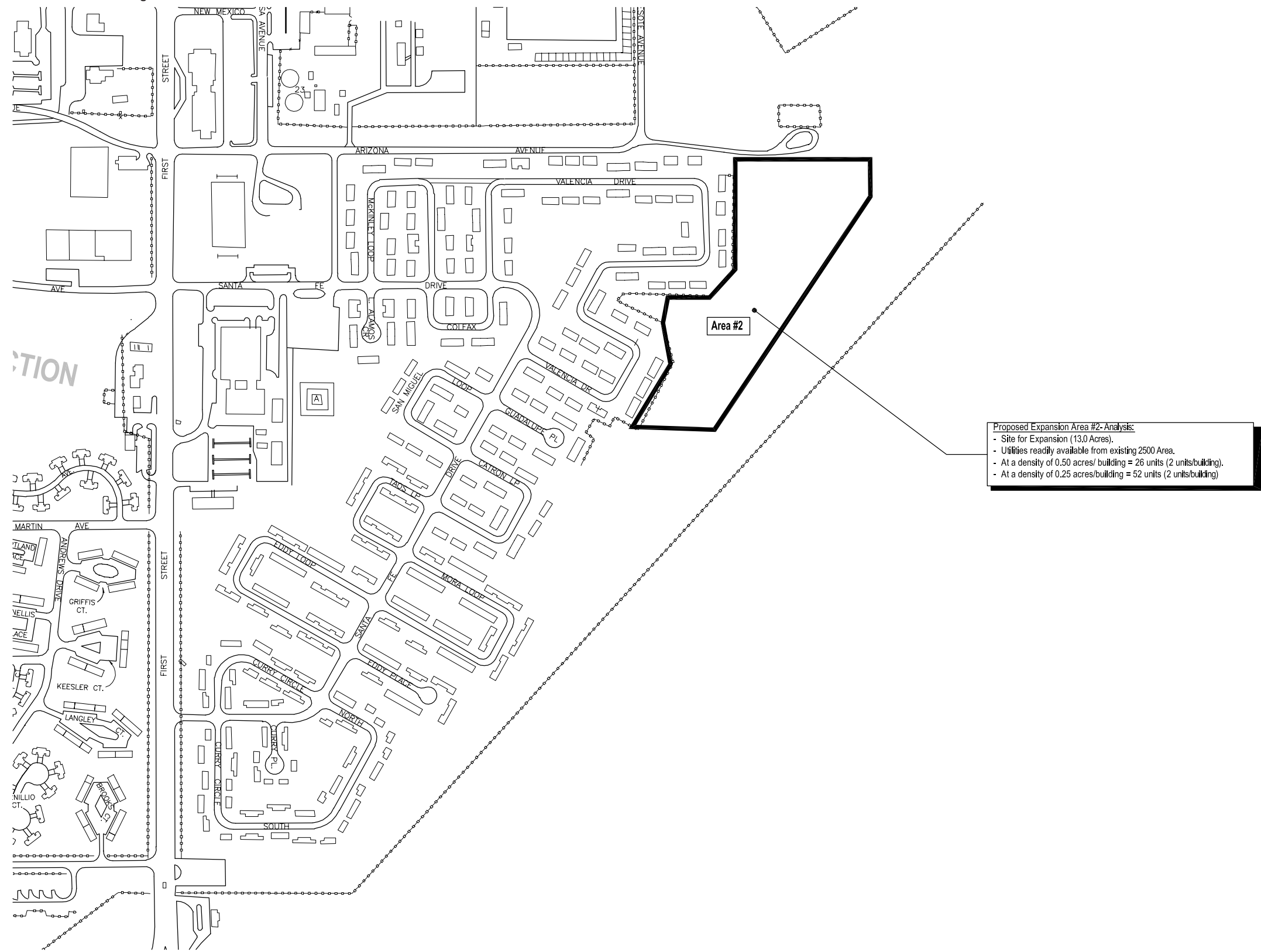
The current vehicular circulation system is well defined and does not appear to require expansion with one exception. Santa Fe Drive is the only access in and out of the East Base Housing Neighborhood/Areas. To permit ease of emergency vehicle entry, an additional access road should be provided at the intersection of Martin Avenue and First Street connecting to Eddy Loop. Housing along Mesquite Avenue, which faces this collector street, should be removed and replaced

with public open space as the availability of replacement housing permits.

### **3.6.3 Sites Available for Additional Housing**

The following drawing shows sites available for additional housing areas.

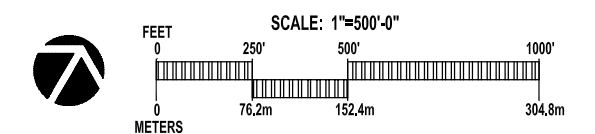
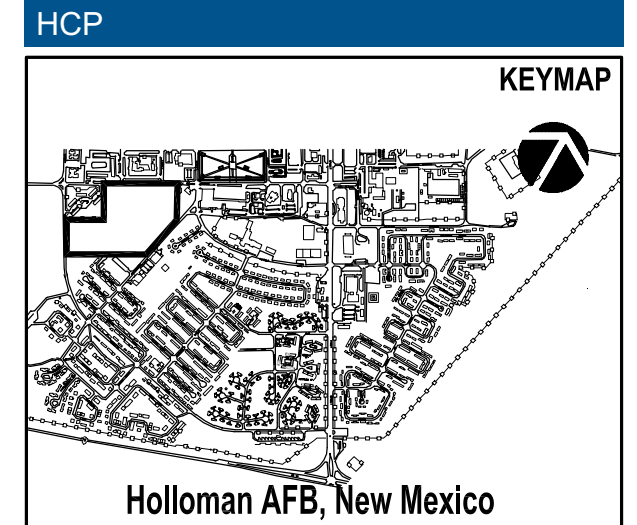
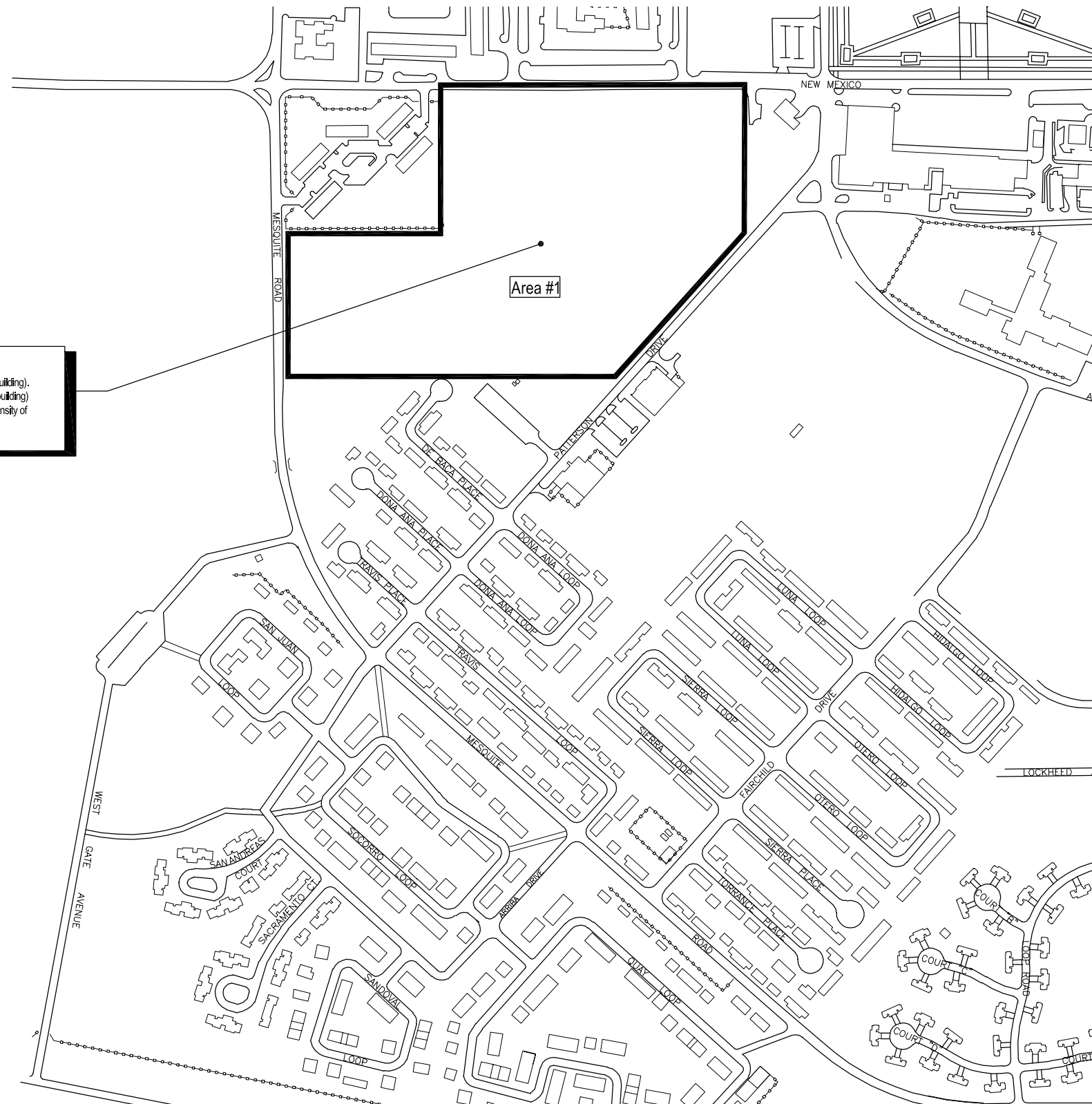
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Base Capacity Analysis - East Base

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Proposed Expansion Area #1:  
 - Site for Expansion (33.0 Acres).  
 - At a density of 0.50 acres/ building = 66 units (2 units/building).  
 - At a density of 0.25 acres/building = 132 units (2 units/building)  
 - Recommended development be utilized to decrease density of existing Wherry Neighborhood Areas



Base Capacity Analysis - West Base

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## **3.7 Housing Surplus Plans**

### **3.7.1 Introduction**

Section 3.7 looks at potential surplus housing. If Holloman AFB is projected to have surplus housing, those units, which should be demolished or diverted to other uses, are identified.

### **3.7.2 Plan Analysis**

A federally mandated process must be executed in order to determine the manner in which these units will be disposed. The Stewart B. McHinnery Homeless Assistance Act (PL 100-77, 42 U.S. C. 11411) is the only major federal legislation to address homelessness. Title V of this act imposes requirements on federal agencies to identify and make available surplus federal property, such as buildings and land, for use by states, local governments and nonprofit agencies to assist homeless people. In accordance with 24 CFR 581. Use of Real Property to Assist the Homeless, federal real property is defined as land or land with fixtures such as buildings.

Donation of houses may be possible as surplus or excess DoD guidance. In consideration of the potential for portions of the houses to contain harmful substances such as asbestos and lead-based paint, any program to donate such property must be closely monitored.

### **3.7.3 Surplus Housing Plan**

There is no surplus housing at Holloman AFB.

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